

4th DRAFT

BUILT ENVIRONMENT PERFORMANCE PLAN 2014-15



MAY 2014

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PART A - Introduction

A1 Documents & References used to compile the BEPP

This item will be attended to once the BEPP is in the final draft stage. Footnotes citing sources are shown in the text.

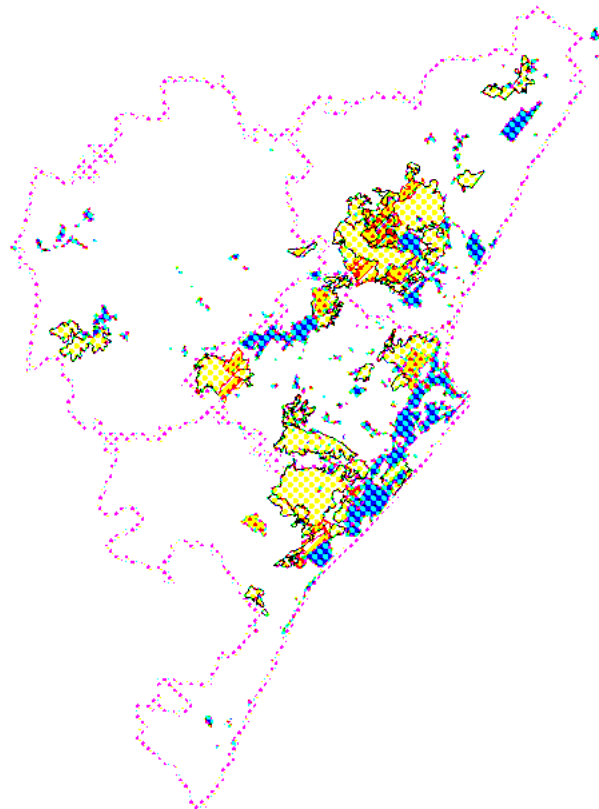
A2 Adoption of the BEPP by the EtheKwini Council

This item will be attended to once the BEPP has been presented to the Council.

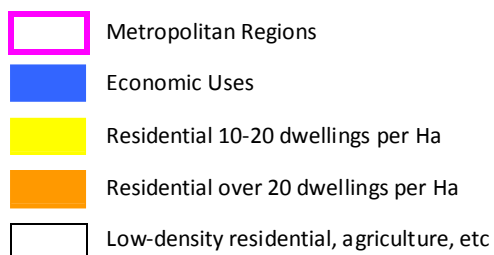
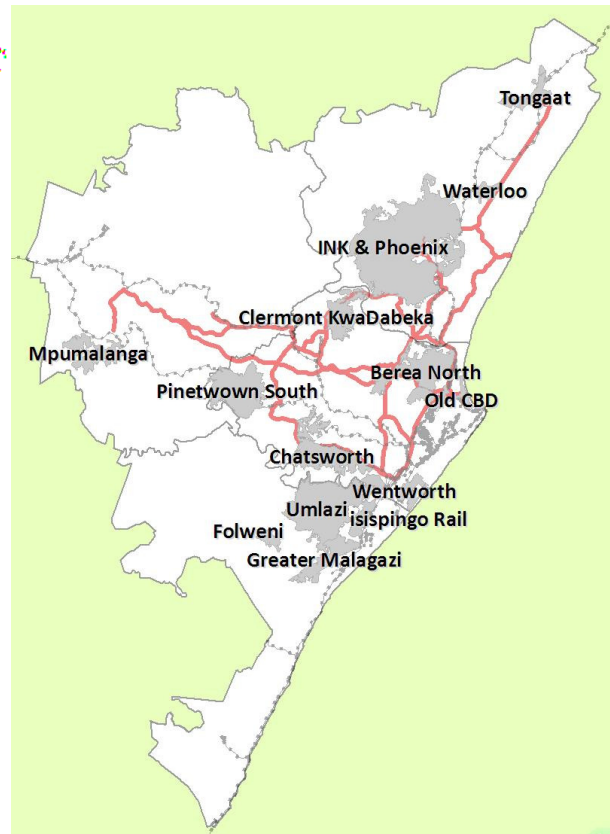
PART B - Strategic Review of the Built Environment

B1.1 Current Performance of the Built Environment - Urban Form

Major Land Uses



Urban Settlements and Public Transport



One characteristic of the urban form of Ethekwini is the clear separation of residential uses from economic uses. This implies that there are few employment opportunities where people live, and that economically active residents must commute. Other characteristics are that there:

- Are significant economic and residential uses in the Central Metropolitan Region.
- Is a concentration of more intense uses in the Central and North Regions, and by comparison, relatively low-intensity of use in the two other Regions.

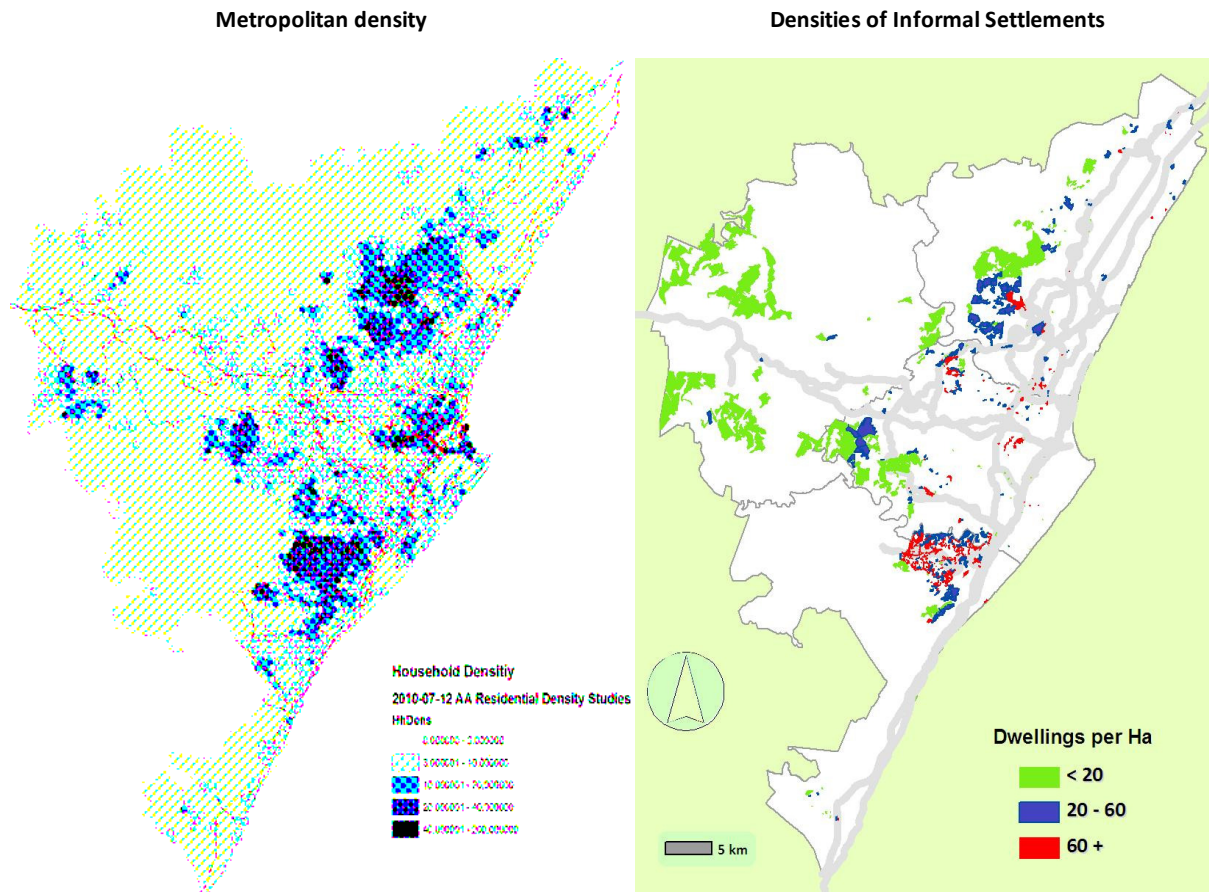
Key characteristics of the residential densities of Ethekwini are:

- Large areas of ultra-low residential densities (less than 3 dwellings per Ha) make up 55% or more of the municipal extent
- The former group areas townships are areas of medium density (20 to 40 dwellings per Ha), often with pockets of high density (over 40 dwellings per Ha), where informal settlements occur.
- Former white group areas tend to be low density (less than 10 dwellings per Ha)
- The CBD, Berea, and Greater Sydenham are areas of medium density (20 to 40 dwellings per Ha), with pockets of high density (over 40 dwellings per Ha)
- Densities along major transport routes tend to be low (less than 10 dwellings per Ha).

These density characteristics have important implications for:

- Where people may wish to settle, whether formally or informally
- Commuting patterns
- Public transport
- Provision of Basic Services
- Provision of Social Facilities

Informal settlements tend to have higher densities, especially within the inner core. Informal settlements with lower densities tend to be located to the west and on the urban periphery.



The spatial fragmentation and low density dramatically affect the access which residents can enjoy to places of residence, to employment, and to social facilities. "Fragmentation of the metropolitan area can threaten its potential as an economic engine, and social and environmental problems in any one part of the urban area can stunt overall metropolitan growth." ^[1] The city's spatial structure "is an obstacle to its equitable, efficient and sustainable development and ... housing as the dominant urban land use is critical in this regard." ^[2]

Fragmentation and low density can be linked causally or directly to:

1 A Strategic Housing Framework for The Durban Metropolitan Area. Draft. Ethekwini Housing. 1998

2 Ibid

- Major transportation-related problems, especially: Public transport which is inefficient, or unsustainable or even non-viable; Long commuting times (average for the majority of Ethekwini commuters is 2 hours return), impacting negatively on labour productivity and on domestic cohesion, and; High relative transport costs per low-income household
- Inefficient infrastructure, especially: High costs per dwelling for pipe runs, and road lengths; High costs per dwelling for maintenance and operations, and; Unused capacity.
- Economic problems, especially: Increased trade costs across many sectors of the local economy; Low-density residential customer bases creating barriers to L. E. D. in residential areas; Absence of or low levels of L.E.D. in residential areas in turn creating a barrier to mixed land uses.
- Higher order social and economic facilities require large geographic catchments and are consequently far away from much of the population
- Underused public space, which contributes to security and urban quality issues.
- Environmental degradation through high energy requirements of transport
- Challenge to quality of life and to long-term sustainability.

Overcoming fragmentation and low density would diminish or reverse these negativities, as well as achieving:

- Spatial integration,
- Increased probability of cosmopolitanism, diversity of class and diversity of urban form.

B1.2 Public Perceptions of the Built Environment

Satisfaction ^[3]

2012-13	Percent
The time you spend with family	21.6
Marriage/relationship with partner	20.5
Health in last year	12.8
Time available to do things you want	10.6
Money available personally	9.5
Standard of living	9.1
The time you spend with friends	7.2
The way spend leisure time	5.5
Household income	3.3
Total	100

The main reasons given for satisfaction with life in 2012-13 were the time that people spent with their families and their marriages or relationships with partners. Individual health over the last year ranked third.

The reasons for dissatisfaction with life are very strongly based in finances and standards of living, which when combined accounts for nearly 75% of all reasons given for dissatisfaction.

Dissatisfaction ^[4]

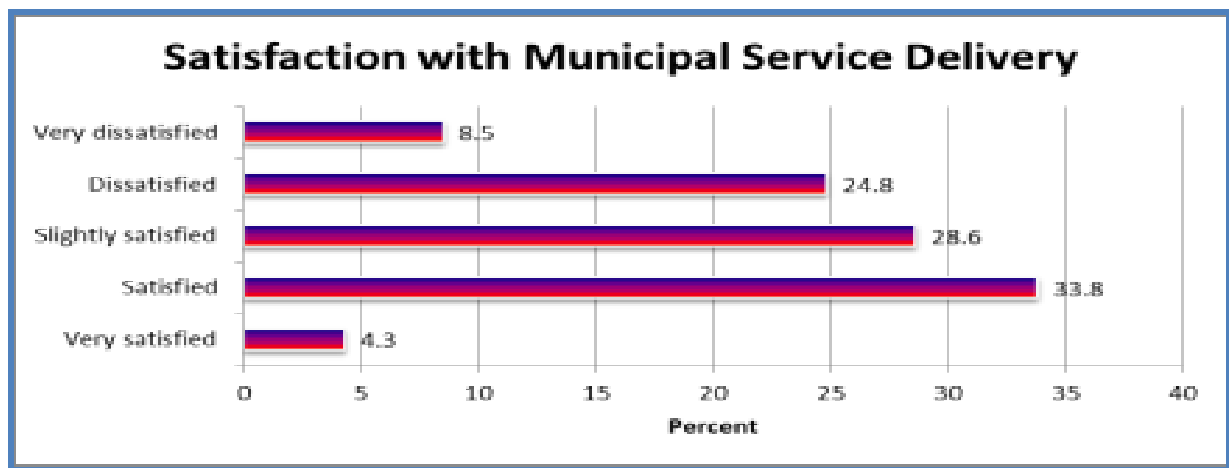
2012-13	Percent
Money available personally	28.9
Household income	24.4
Standard of living	23.9
Health in last year	7.1
The time you spend with family	5.1
Marriage/relationship with partner	4.3
The way spend leisure time	2.5
Time available to do things you want	2.3
The time you spend with friends	1.6
Total	100

Regarding satisfaction with municipal services 66.7% of residents are satisfied 33.3% are not satisfied. The main reasons for being satisfied were that services were provided, they were reliable and residents generally did not have complaints. When problems with services arose they were promptly attended to.

Reasons for being dissatisfied with services included: there being no services, infrastructure was not being developed, where there were services these were not reliable and were not being maintained.

3 Source: MSLCS, 2012/13, Corporate Policy Unit

4 Ibid

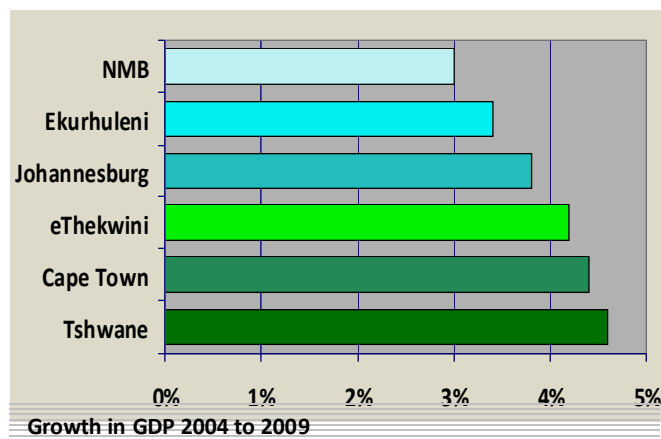


B2 Economic Infrastructure Review

Overview

"The EMA is host to the country's third largest concentration of economic activity after the Johannesburg and Cape Town metros. The EMA has the second largest concentration of manufacturing activity after Johannesburg and is the location of the country's busiest and largest diversified port in value terms".^[5]

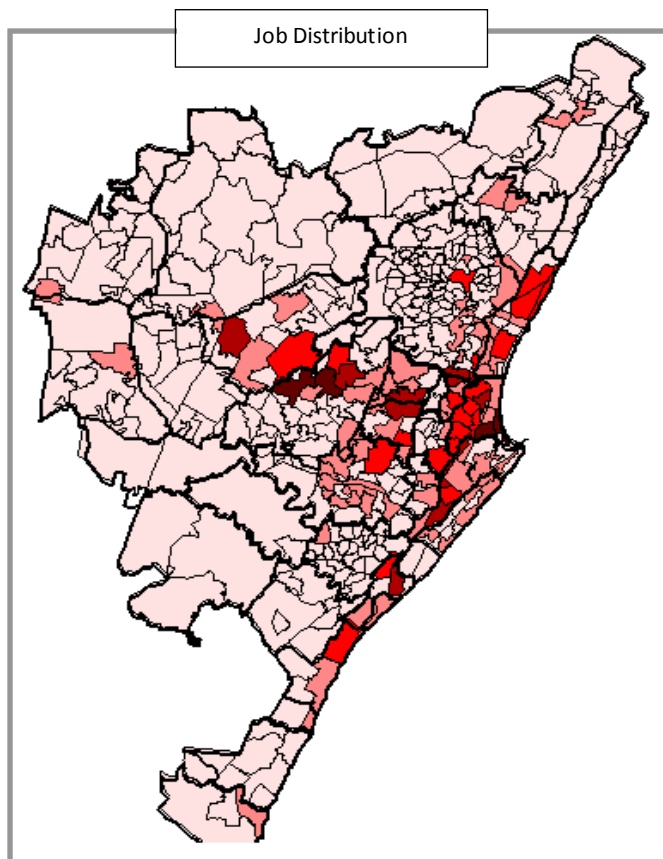
Ethekwini is the economic powerhouse of KZN and plays a major role in the South African economy. It is the central engine of the regional economy, closely linked to Pietermaritzburg (and onward to Gauteng) and to Richards Bay. It ranks as the third largest economic centre and the second largest industrial concentration in South Africa. It is a very promising global competitor with a world-class manufacturing sector. It is home to Africa's first multimodal logistics platform and international passenger airport, Africa's busiest port, and a global conferencing, sporting and tourist destination. It is also a substantial administrative centre, providing key public services within the Metropolitan area as well as to the wider region. It is both a centre for low cost production, as well as a key logistics hub in the national economy. It is home to 10% of all employment opportunities in South Africa.



The city faces significant economic and social challenges. These are associated with inadequate economic growth rates of 5.6% over the last decade. Though this is better than the national average of 4.6%, it is still inadequate to the needs of a growing city. The city also has high levels of unemployment. In essence, the population has grown at a significantly faster rate than the number of jobs, leading to an expansion in unemployment and poverty.

The global recession affected the city severely, exacerbating unemployment and reversing growth in key sectors. Metro GDP declined to R134.4 billion during 2009, down 2.3% from 2008. Container shipping dropped by between 4% and 8% while shipping in general has seen reductions of up to 30% in some sectors according to the National Ports Authority. Per capita income and poverty levels in the city, both of which had shown only moderate improvement over the medium term, were also negatively affected. The province has recorded the largest number of job losses in the country, while the number of Unemployment Insurance (UIF) claims in Durban increased dramatically during 2009 with a monthly average of 2,855 from January-October 2009, compared to an average of 2,027 during 2008.

⁵ Economic Situation Assessment: Northern Urban Development Corridor. Ethekwini Municipality. Prepared by SSI, Glen Robbins, Vancometrics, Urban Studies. 2009



The recession slowed the growing pressure on the city's infrastructure. This had come under strain due to the rapid growth in demand for transport services, in particular, with TEUs handled growing by 30% since 2004, with knock on effects on road transport infrastructure. The property boom of the last few years has placed significant pressure on road and sewer infrastructure particularly in the northern and western regions and the inability to expand these systems 'ahead of the growth' has to some extent retarded this growth. The slowdown is now providing the city with an opportunity, within its resource capacity, to address bottlenecks over the next few years to resume more efficient and more equitable growth through the timeous supply of infrastructure in key growth areas. The region has high unemployment, high poverty levels, low foreign direct investment, poor partnerships with the private sector, and growth rates which are too low to sufficiently address labour constraints

Economic Activity by Sector

From 1997 to 2007, Ethekwini economy grew by 4.1% p.a. Main sectors were manufacturing, financial services, trade, and transport. The new airport tradeport as well as the planned major expansions to the Port of Durban and the associated freight corridor are the main catalyst projects for the next 10 years. They are expected to generate growth specifically in the trade and transport sectors. ^[6]

Employment

"The EMA has seen an absolute growth in the total number of people employed ... from 900 000 people in 2000 to around 1,2 million in 2007 before contracting again in 2008 and 2009 closer to the 1 million figure ... Statistics South Africa also show that almost fifty percent of all jobs lost in the country as a result of the recession have been in KZN demonstrating that much employment growth was in insecure sectors such as retail, outsourced labour in the logistics sector and agricultural employment in commodity related sectors such as timber sensitive to cyclical price fluctuations....

KZN has the lowest expenditure on education per pupil in the country and so is unlikely to soon be in a position to shift the skills base of its population. " ^[7] "As the second most populous province with a high rural population it is not surprising that KZN has a higher percentage that the national percentage of unemployed. ...

As a major urban growth node Ethekwini should have markedly lower unemployment than the national figures - this is likely to do with the depth of poverty in KZN compared to Western Cape and Gauteng. " ^[8]

6 IDP review 2010/2011. Ethekwini Municipality. 2010

7 Economic Situation Assessment: NUDC. Ethekwini Municipality. Prepared by SSI, Glen Robbins, Vancometrics, Urban Studies. 2009

8 Ibid

Population

The population of EtheKwini is currently 3.76 million and is projected to rise to approximately four million by 2020.^[9] The growth of the population is likely to be driven by the general trend of urbanisation, which is expected to continue. Motivations for migration are the search for employment and for better services. Experience shows that the urbanisation trend does not depend on the availability of formal employment opportunities in the target area. New household formation is expected to continue with the result that the growth rate of the number of households remains higher than the growth rate of the population. The number of households determines the demand for housing and services.

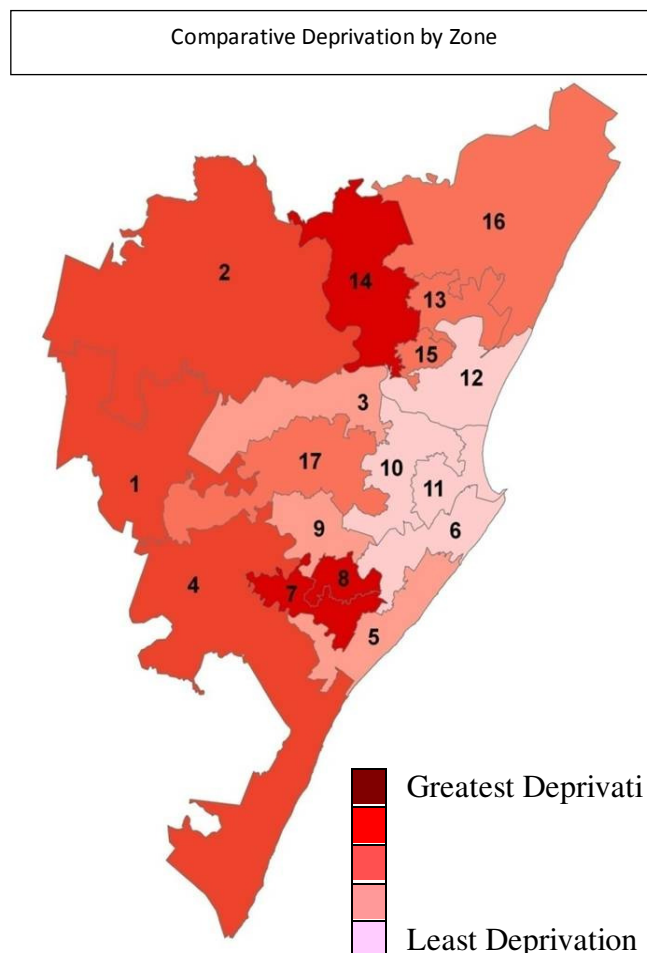
Dwelling Type	Households		Population	
	No.	%	No.	%
Formal	524,582	55.5	2,038,231	54.2
Informal	317,613	33.6	1,160,301	30.8
Rural	103,715	11	559,019	15.0
Total	945,910	100	3,757,551	100.0

Socio-economic indicators

- “63% of the households earn less than R 3,200 per month”^[10]
- “37% and 28% are employed and unemployed (in the narrow definition) respectively”^[11]
- “37% of EtheKwini’s population has matric and higher education, 35% has some secondary education and 10% has no schooling”^[12]

An Indicator of Comparative Deprivation by Zone has been developed to spatialise socio-economic features. It combines indicators of:

- Unemployment
- Income
- GDP
- Infrastructure Backlogs
- Social Facility Backlogs



9 IDP review 2010/2011. EtheKwini Municipality. 2010

10 Census 2001, adjusted for 2009. Statistics SA. 2001.

11 Economic Situation Assessment: Northern Urban Development Corridor. EtheKwini Municipality. Prepared by SSI, Glen Robbins, Vancometrics, Urban Studies. 2009

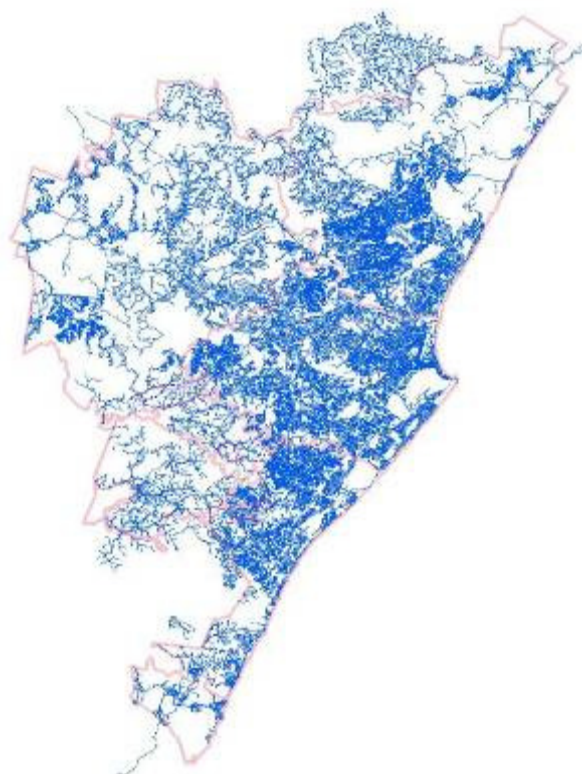
12 Economic Situation Assessment: Northern Urban Development Corridor. EtheKwini Municipality. Prepared by SSI, Glen Robbins, Vancometrics, Urban Studies. 2009

B3 Basic Infrastructure Review

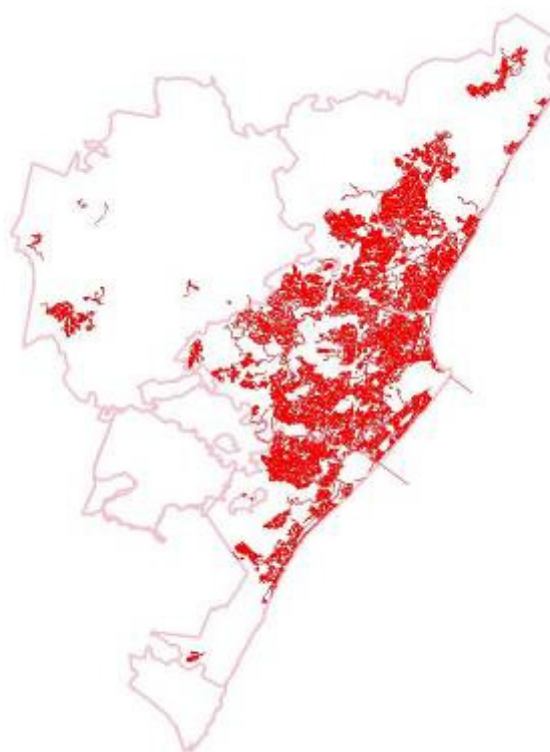
Current Levels of Service

Service	% of Ethekwini households with access	
Basic Water Provision	92.23	%
Sanitation	76.05	%
Solid Waste Removal	100.00	%
Electrical Connection	66.40	%

WATER SUPPLY NETWORK



SEWERAGE NETWORK



Backlogs and Timeframes

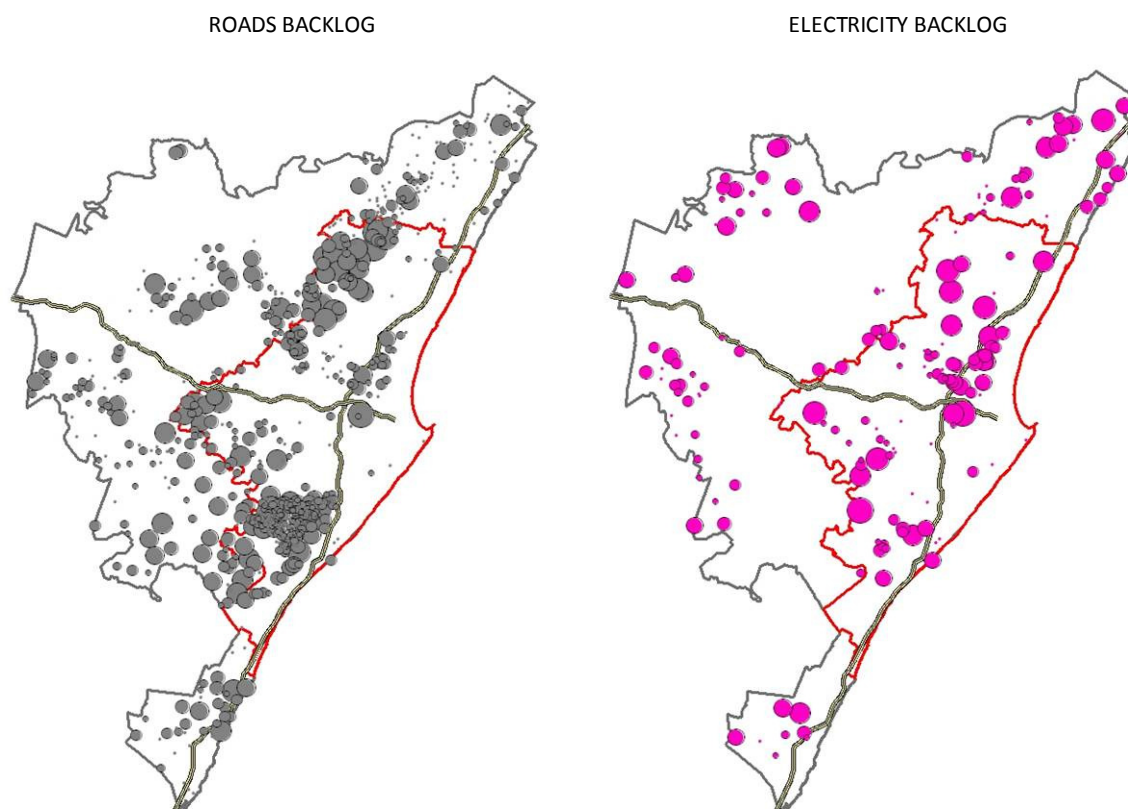
Basic Service	Existing Backlog as at 30 June 2013	Delivery p.a.	Timeframe to address based on current delivery levels
Housing	404,192	5,000 to 10,000	41 to 82 years
Water	71,486	2000 to 2500	29 to 37 years
Sanitation	21,7508	8000 to 10000	23 to 28 years
Electricity	29,0393	8000 to 13000	23 to 37 years
Refuse removal	0	0	0
Roads (km)	1 118 Km	10 to 15 Km	97 to 145 years

Bulk Water Supply

The level of assurance of water supply from the Mgeni system has dropped from 99% to 95%. The situation is sufficiently severe that water restrictions are inevitable once rainfall returns to normal and the Head: Water and Sanitation has reported this to the Ethekwini Council with a recommendation that a senior political delegation request a meeting with the Minister of Environment and Water Affairs to unblock the obstacles around bulk water supply and the finalisation of river reserve determinations. The augmentation of supply from the Springgrove Dam will only become a reality in 2013 and even with this additional capacity Ethekwini will still suffer from a water supply shortage. Water recycling is likely to come on stream in the next few years but more efficient utilisation of the existing resource is a priority. From the point of view of current water supply, there is insufficient supply to deal with any further development as envisaged in the SDF and SDPs.

River Reserve Determinations

Providing a sewerage service necessitates making changes to existing sewerage treatment works and building new works. Under the National Water Act, to undertake either of these activities an application for a water use license must be made. Before a license application is assessed by the Dept of Water Affairs (DWA) the ecological reserve of any affected water resource must be established. Although the ecological reserve determination studies have been completed for a number of the EtheKwini estuaries - and submitted to DWA by the specialists - these studies, have not been finalised by DWA. However, it already seems to be clear from a sewerage planning perspective that, if the intentions of the ecological reserve process are to be met, and the current land uses in the SDPs remains unchanged, a combination of direct re-use of treated sewage effluent for potable water supply and some quite extensive cross-catchment pumping, will have to form the basis of future sewerage planning.



Strategic Environmental Assessment (SEA)

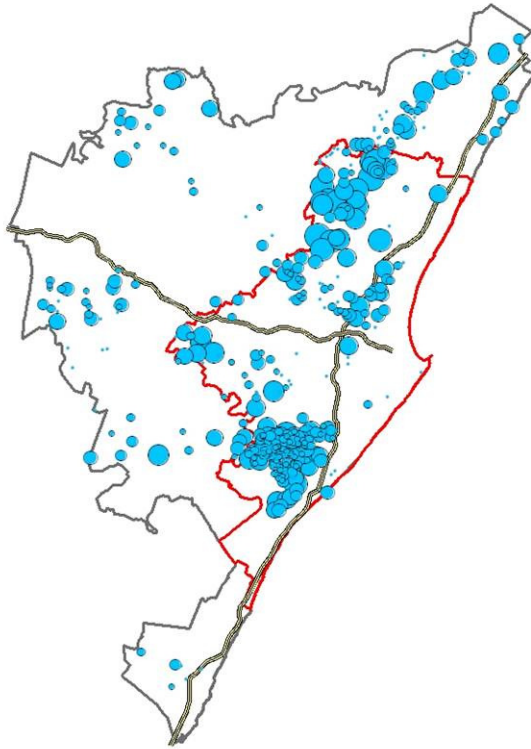
The Municipal Planning and Performance Management Regulations require that the Spatial Development Framework (SDF) "contain a strategic assessment of the environmental impact of the spatial development framework". To date, such a SEA has neither been conducted on the SDF nor on the more detailed spatial development plans (SDPs). The SEA methodology, which will test the sustainability of the SDF and SDPs, is currently being conceptualised. The SEA is likely to take more than two years to complete and will only then provide strategic environmental comment on the SDPs and inform city-wide environmental choices. It is envisaged that the SEA will include, inter alia, an assessment of the impact of climate change. The SEA needs to be coupled with a strategic social assessment as well as a strategic economic assessment in order to reach a balanced view that can then be applied to the SDPs and the process of modifying the land use footprint.

The Comprehensive Infrastructure Plan (CIP)

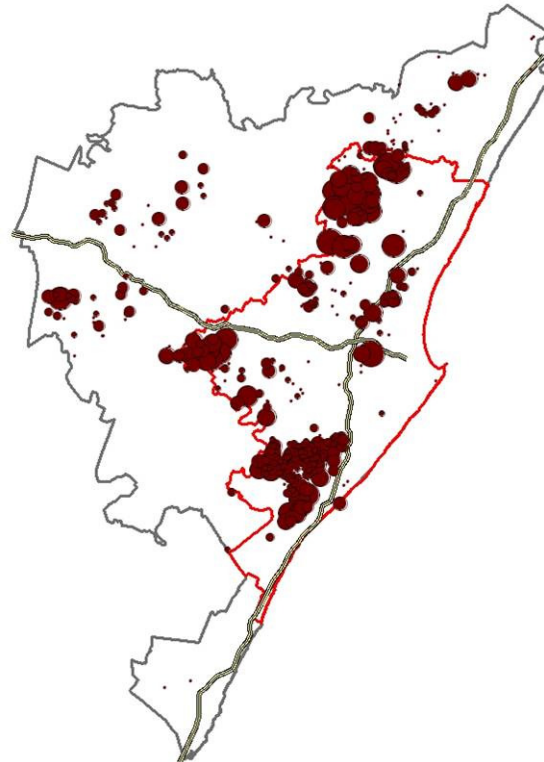
The Comprehensive Infrastructure Plan Phase One ^[13] identifies the backlog for bulk and reticulation infrastructure, and the backlog in asset management for water, sanitation, electricity and roads. The asset management section of the plan indicates the long-term operational costs. Phase 1 of the CIP deals with the provision of services for the current Housing Plan and to rural areas. It acknowledges that later editions of the plan will need to deal with private developments as well. Phase One reflects all projects in the EtheKwini Housing Plan, the Interim Service Program, rural backlogs and New Initiatives.

The Housing Plan contains short, medium and long-term projects. These are Upgrading, Greenfield, and Rural projects. The Interim Service Program provides a low level of services to informal settlements that will not be upgraded within the next 3 years. New Initiatives are developments of medium to high density housing, which make better use of spare capacity of existing infrastructure within the urban development line (UDL). The UDL is defined by the extent of the water borne sewer network. The CIP promotes compaction of the city and the use of spare bulk capacity. It specifically promotes higher density settlements inside the UDL. Rural mass housing development is not supported. The density of rural developments should be limited to the natural capacity of the environment to assimilate the generated waste water.

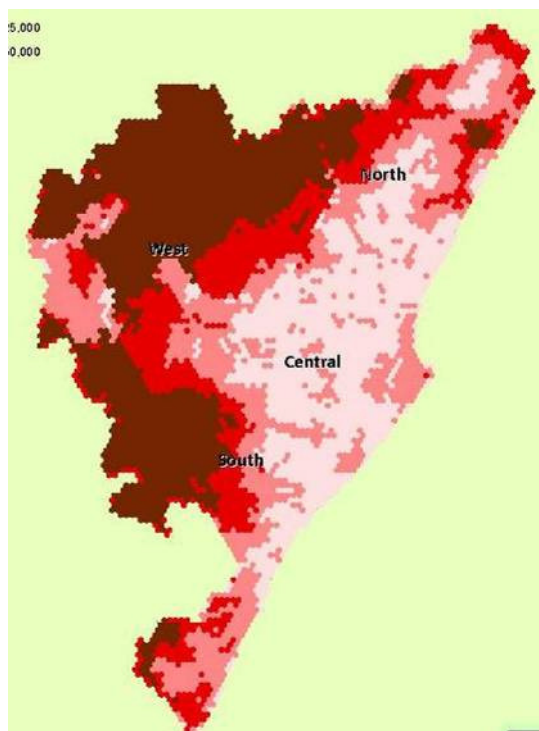
WATER SUPPLY BACKLOG



SANITATION BACKLOG

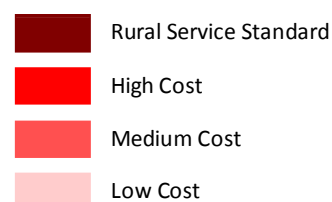


Cost Surfaces Model



Land identified for both in-situ upgrade and greenfields projects are evaluated using the Cost Surface Model. This Model indicates spatially the presence as well as the capacity of bulk infrastructure across the municipality. It provides cost estimates for bulk infrastructure provision for any location in the city.

The objective of applying the model is to locate housing projects where services with available capacity are present rather than locating projects in areas where new services must be provided at higher cost to the Municipality. Where services are not available in areas identified for projects (given land constraints) a phased servicing approach integrating various (engineering) line budgets is undertaken.



Service Standards

The CIP distinguishes between three standards of services:

- Rural service standards: One ground tank per household supplied with 300l per day; Urine diversion toilet; Electrification only of densely clustered pockets; All weather surface to all public transport routes and roads within communities having a density greater than 15 persons per Ha
- Informal Settlement standards: Communal ablution blocks (toilets and showers) within 200m of served households; High mast lighting for security; Emergency access roads for waste removal, fire and emergency vehicles.
- Formal Urban service standards: Semi pressure water house connections; Waterborne sanitation; Electricity connection; All weather surface roads.

Funding

Sources of funding are the Urban Settlement Development Grant (USDG) and municipal funds.

URBAN SETTLEMENT DEVELOPMENT GRANT (USDG)

Approved by National Cabinet on 5 March 2003, the Municipal Infrastructure Grant (MIG) was a consolidated grant mechanism from national government to municipalities, which aimed to address infrastructure backlogs. The objective of the MIG program was to provide grant funding to supplement municipal capital funding to build basic municipal infrastructure for under-served communities. The MIG program covered a ten-year period, from 2004 to 2013. The overall budget was R 63bn, and annual budgets were between R 5bn and R 7bn nationally.

In 2010 the USDG replaced the MIG for the large municipalities such as Ethekwini . USDG has “the purpose of supplementing the capital investment program to improve the performance of the built environment and thus contribute to the development of sustainable human settlements and improved quality of life for households. The strategic goal of the USDG will be achieved through accelerating the provision of serviced land with secure tenure for accommodation for lower-income households in large urban areas and simultaneously providing appropriately located serviced land to support economic development that results in job creation for the underemployed and unemployed urban dwellers. The balance between economic and social goals will be achieved through expanding access to land and infrastructure[...]. In addition the USDG retains the intention of the MIG-Cities Grant to regulate all outputs and outcomes of municipal capital expenditure programs through a Long Term Built Environment Performance Plan (BEPP) that has a multi-year Performance Framework that allows municipalities to allocate grant resources in an integrated manner across their capital budgets. ” ^[14]

MUNICIPAL FUNDING

From a variety of sources, the municipality funded top-ups for a higher level of engineering services. On a pilot basis, the municipality has funded Densification top-ups of up to R40,000 per unit for double story row housing

B4 Residential Infrastructure Review

B4.1 Housing Review

The following sub-markets are defined:

- **LOW-INCOME HOUSING** ^[15] means informal, traditional, rental or individual ownership of serviced or un-serviced dwelling units by low-income households with incomes under R 3 500 p. m. Single sex hostels are also part of the low-income market.
- **AFFORDABLE HOUSING** means rental or individual ownership tenure over fully serviced dwelling units by households with incomes from R 3,500 to R 15,000 p. m. It includes the so-called “Gap market”, of households who earn from R

14 Urban Settlements Development Grant - USDG - Policy Framework. Department of Human Settlements. 6 October 2011

15 Also referred to as Housing for the Poor or Pro-poor Housing

7,500 to R 15,000 p. m. The term 'gap' derives from the absence of subsidies for these households, the virtual absence of available housing stock, and the thin availability of bond finance.

- **MID-MARKET AND UP-MARKET HOUSING**^[16] means rental or individual ownership tenure over fully serviced dwelling units by households with incomes over R 15,000 p. m.
- **SOCIAL HOUSING** means subsidised rental tenure over fully serviced dwelling units for households with incomes from R 1,500 to R 7,500 p. m. There are differing views as to whether social housing is a housing program or a housing market. In this document, the term is used for the housing program that addresses the low-income and affordable rental markets.

Supply Trends in Housing Sub-Markets in Ethekwini

By sub-market, the main trends in housing supply have been:

- The formal market is not spontaneously providing dwellings in sufficient number or of adequate quality or in the optimal locations for the poor or affordable markets. The degree to which the formal market fails the low-income sub-market is extreme.
- The focus of publicly funded housing has been on the low-income sub-market. The main outcomes have been free standing houses coupled with individual freehold title, transfer of state owned rental stock to tenants, and some hostel upgrades coupled with rental tenure.
- 80% of new housing projects have been implemented within the Urban Development Line (UDL).
- "The market is spontaneously providing dwellings in sufficient number, of adequate quality and in the optimal locations for the upper-middle and upper income markets." ^[17]
- Mid-market and up-market developments tend to have been at the urban periphery often in the form of gated communities coupled with individual freehold title or sectional title, such as those in Hillcrest. A significant exception is the development on Umhlanga Ridge.
- "All spheres of government recognise the necessity and desirability of having housing markets that work for all the segments of the market, and consequently are willing to avail resources to address market shortcomings and failures." ^[18]
- There is significant demand for rental stock. Research estimates are that 33% of households in Ethekwini live in rented accommodation, many of them in inadequate human settlements. By 2012, demand is estimated to increase by another 19,000 rental dwellings, and the greatest share of this demand will be by low-income households. ^[19]

Existing Housing Demand in Ethekwini Municipality

The housing backlog is defined in three ways, as shown below. ^[20]

Backlog as at June 2013	No. Households	% of All Dwellings
Dwellings in informal settlements only	269,073	30%
Dwellings in informal settlements + informal dwellings in backyards	313,958	35%
Dwellings in informal settlements + informal dwellings in backyards + traditional dwellings	408,394	45%

¹⁶ Also referred to as Upper-middle Income Housing and Upper Income Housing

¹⁷ Strategy-Level Pre-Feasibility on the Accelerated Delivery of Housing and Related Infrastructure, and on Densification. Unpublished. Ethekwini Municipality. Prepared by Anton Aiello in association with PPT. 2006

¹⁸ Strategy-Level Pre-Feasibility on the Accelerated Delivery of Housing and Related Infrastructure, and on Densification. Unpublished. Ethekwini Municipality. Prepared by Anton Aiello in association with PPT. 2006

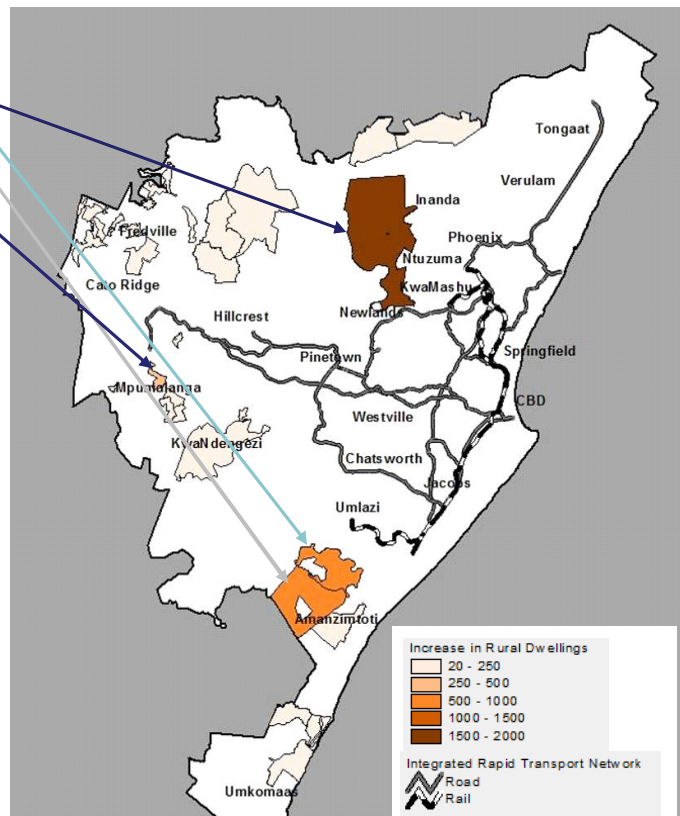
¹⁹ Demand and Supply of Rental Accommodation in South Africa. Social Housing Foundation. 2008

²⁰ Ethekwini Housing Unit, data supplied in July 2011, and updated via cross-reference to SDBIP

Densification Trends in Non-Formal Settlements

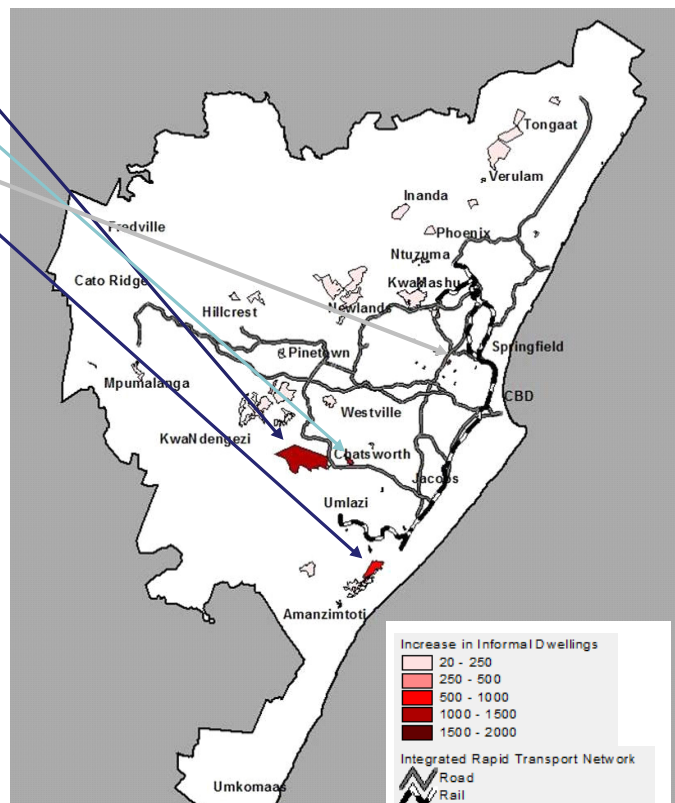
NON-URBAN

Area Name	Increase in Dwellings
Inanda Mission Reserve Mqhawe	1 807
Golokodo-Ensimbini	615
Adams Rural	549
Emalangen Phase 3	282
Mabedlane	248
Rietvallei Tin Town Phase 1b	242
Nsulwana	236
Umnini	213
Kwaximba	209
Kwasondela	181
Bhekulwandle	178
Inthuthuko	159
Danganya	142
Zwelibomvu 4	125
Emagezeni	107
Ezibomvini	45
Seventeen	38
Ogunjini	25



INFORMAL SETTLEMENTS

Area Name	Increase in Dwellings
Greather Welbedaght West	1 433
Madiba Bottlebrush	807
Kennedy Road	571
Lower Malukazi	528
Umlazi V - Peace Valley	373
Tshelimnyama Phase 4	367
Banana City	241
Ntuzuma A And B Richmond Farm	195
Isipingo Lots 234 To 236	182
Burnwood Road	163
Mpola Phase 3	162
Kloof Ext 15 Exr 21 Phase 3	146
Bayview 1	128
Tanzania Lusaka Overspill	126
Umlazi Infill Phase 5 - Q4 Q5	124
Amawoti - Amaotana	114
Quarry Rd West	110
New Germany Road	102



Delivery scenarios to address backlog

Basic Service	Existing Backlog as at 31 December 2011	Existing Backlog as at 30 June 2013	Timeframe to address based on current delivery levels
Housing	404,192	5,000 to 10,000	41 to 82 years

Challenges to Delivery

In the last three years the delivery targets of have not been achieved.

Obstacles to delivery included:

INSTITUTIONAL OBSTACLES

The post of Head: Housing is currently vacant.

In addition, the post of Deputy City Manager: Human Settlements and Infrastructure is vacant.

REGULATORY OBSTACLES

The most often mentioned regulatory obstacles or delays for housing delivery are:

Environmental Impact Assessments (EIA) rarely stop housing projects but frequently delay them because long and complicated processes need to be followed before permission from the Province (Department of Agriculture, Environment and Land Reform) can be obtained.

Town planning requirements are principally township establishment. This often requires rezoning of the land. The new KZN Planning and Development Act (PDA) enables the municipality to carry out rezoning and township establishment in its own right without engagement with Province. The municipality would be interested to explore a streamlined town planning process, with cadaster being formally defined only for commercial and social sites and for roads, and with a less formal process for the definition of individual residential sites.

LAND ACQUISITION OBSTACLES

The scarcity of well-located land is often highlighted. Ethekwini has a very low density with significant infill areas. The problem is not that there is no vacant land, but rather that well-located land is expensive and subject of competition from other uses. The problem of scarcity of land could be addressed through higher density developments but these have their own obstacles, as indicated below. The municipality is interested to investigate if the apparent scarcity of funds for land acquisition can be resolved. If it could be resolved, the municipality would be interested to establish a Municipal Strategic Land Fund.

OBSTACLES TO DENSIFICATION

The main obstacles to densification are:

- Higher construction costs of the top-structure
- The apparently entrenched perception that low-income housing should be detached houses on individual plots.

FUNDING CONSTRAINTS

Funding constraints are experienced for:

- Land assembly
- Bulk infrastructure
- Local infrastructure
- Top-structures, particularly for medium- and high-density housing typologies
- The Municipality is interested to explore the parameters of the USDG to address these funding constraints.

Funding Risks

Outcome 8 shifts the focus of housing policy to informal settlements and to those large municipalities that accommodate many informal settlements. The housing programs of Ethekwini Municipality are in line with this shift. A number of issues of the new funding environment have not been resolved yet, which result in difficulties in assembling funding for informal settlement projects:

The Upgrading of Informal Settlement Program (UISP) is the principal program for incremental upgrading. But the Interim Services program undertaken by the municipality cannot be funded through this program, because it does not adhere to the pre-defined UISP stages. The reason for this is that UISP requires land acquisition and individual tenure security before the provision of services (i.e. as part of phase 1 of the UISP). This is not practical, and it could be argued that flexibility of measures in the different UISP phases should be allowed.^[21] Until flexibility of the UISP stages is achieved, the USDG will be the principal source of funding of Interim Services in informal settlements. In addition, the funding quantum provided for interim services for phase 1 is insufficient: only R2,966 is provided for in the subsidy formula whereas the actual costs in Ethekwini are in the region of R20,000.

The IRDG regulations state that land and services components can only be funded if no other funding source exists. With the introduction of the USDG another funding source has been created and it is not clear how this could affect the way one deals with funding the land and services components. The municipality is eager to see that the IRDG regulations' apparent barring of double-subsidy does not run contrary to the intention that the USDG provide additional funding to the major cities facing the biggest housing challenges.

USDG funding can be applied to:

- Interim Services in the Upgrading program
- Bulk services for all housing programs
- Land acquisition
- Services to rural areas

There is a serious risk of over-reliance on USDG, because other funding sources cannot be accessed.

The Ethekwini Municipality used to provide bridging funding for housing projects. In a recent interpretation of the MFMA, the municipality is no longer allowed to provide bridging finance and the practice has been stopped. This contradiction between regulations at provincial and municipal level needs to be resolved urgently as it compromises housing delivery by the municipality. To resolve this issue the Ethekwini Municipality proposes that Province pays funds for project implementation in advance every quarter.

These funding issues have important implications for the housing delivery in Ethekwini Municipality. They need to be addressed urgently in order to achieve the delivery targets for the coming financial years.

Other funding issues include:

- The funding portion in the subsidy for land (R2,617 per site) is insufficient especially for well located land in Ethekwini where the actual costs are in the region of R6,000 per site.
- There no accessible funding for land acquisition at the time when it is required. Land acquisition typically takes between two and three years to achieve, yet housing subsidies will typically only be released by the province when land has already been secured. This creates a Catch 22 situation. Securing funding from the DRLDR has proven unworkable. It is therefore critical that dedicated land acquisition funding is made available to acquire land for suitable projects once feasibility studies have shown that the project is, in other respects, viable and appropriate. The funding portion for services funds only basic standards, which not suitable for the settlements which fall within the UDL. The municipality has provided top up funding for internal services.
- The funding portion for top-structures is insufficient for medium-density developments such as double-storey row-houses, especially if they are located on steep sites. Medium-density developments are required to implement the spatial and housing strategies of Ethekwini Municipality. A top-up of approximately R 40,000 per unit is required to enable the construction of double-storey duplexes.
- The top-up provisions for difficult geo-technical conditions are insufficient for building on steep land and geotechnically difficult land. A top-up of approximately R 15,000 per unit is required to enable additional earthworks, embankments, retaining, slope stabilisation, and .
- Currently there is no funding source for relocations. It needs to be clarified whether or not Emergency Housing subsidies can be used for this purpose.

21 Informal Settlement Eradication Strategy. Draft. KZN Department Human Settlements. Prepared by PPT. 2011

- The funding for Project Preparation must be accessible through a simple and fast process. Pre-liminary planning and project prioritisation needs to be increased in order to have sufficient projects lined up for implementation at any time. The funding provided for professional services is insufficient and out of line with norms in the construction industry. Ethekwini typically has to top up the funding for these professional services. Depending on the level of detail gone into and the scope of the work, between 1% and 3% of the project's capital costs are required for feasibility studies, including topo, geotech and environmental surveys, prelim planning and engineering, land audit, funding applications. On a 500 unit project with a works value of R 40 Million of engineering services and top-structures, the required preparation funding is R 400,000 to R 1.2 Million.

B4.2 Land Review

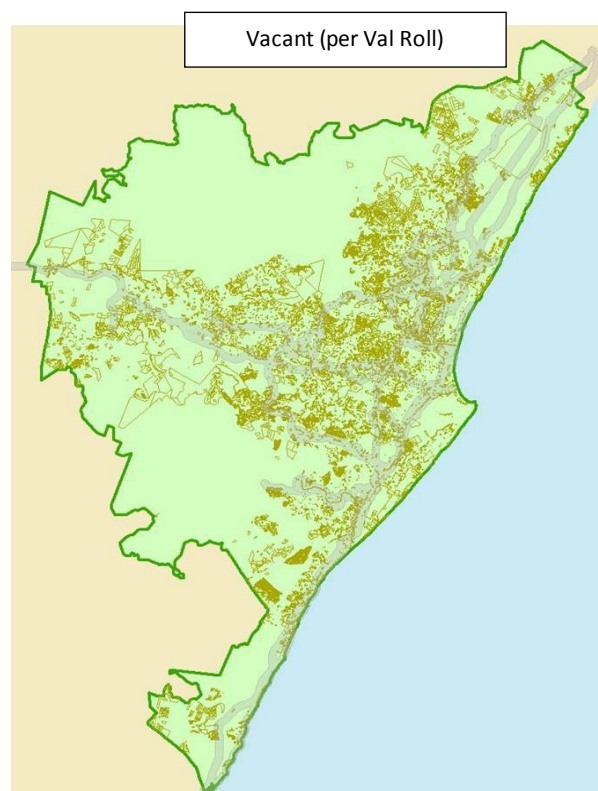
Connection between Land Demand and Housing Typology

The amount of land needed depends on the numbers of dwelling units to be delivered and the density of housing developments. The density of housing developments is heavily influenced by housing typology, and access and parking standards for vehicles. Past calculations of the demand for land are based on the typology of one house per plot with vehicular access and therefore arrive at a very high demand for land.

The IDP and other strategic documents clearly state the intent for densification but this has only recently begun to be translated into practice in low-income housing projects. "In the context of National Government imperatives as well as IDP objectives, the focus will be on increasing housing densities in appropriate locations thus reducing the amount of vacant land required. This shift towards eliminating urban sprawl and towards more sustainable settlements is acknowledged and accepted as it also drastically reduces the amount of funding that the Ethekwini will require to budget for extending bulk infrastructure and providing new community facilities. " ^[22]

Ethekwini Municipality is in the process of developing a metro-wide densification strategy. It will provide criteria for appropriate densities in different locations and contexts. There are however several pilot low-income housing projects in the planning stages with planned densities of 50 to 100 units per Ha. The four Spatial Development Plans summarised in more detail below propose densities for different locations based on the principle of higher densities in more central locations.

Quantum and location of undeveloped land



Vacant developable land supply calculations were drawn from the Land Cover Study undertaken by the Corporate Policy Unit. Excluding agriculture and forestry, approximately 205,000 hectares was identified as 'undeveloped', of which 71,000 hectares is deemed developable. Based on the need for approximately 6,000 hectares of land for greenfields projects, the low income and affordable housing market will require less than 10 % of the total amount of developable land in the municipality. ^[23]

"Most of the appropriately located land is in the North area under private ownership. Further land also exists within the [former] Outer West although a significant amount of the [suitable] available land has already been approved for housing " ^[24] Vacant land in the former Outer West is not considered to meet the objectives of densification or of ready access due to distance from commercial and industrial development. "Land to the South is quite scarce with the remaining undeveloped land being unsuitable or too costly to develop due to the steep terrain. In Central, "vacant land is limited [and what remains} has already been informally settled. The central area does however provide excellent

22 Integrated Housing Development Plan. Ethekwini Municipality. 2006

23 Integrated Housing Development Plan. Ethekwini Municipality. 2006

24 A Strategic Housing Framework for The Durban Metropolitan Area. Draft. Ethekwini Housing. 1998

opportunities for small infill development as well as the development of medium density housing projects.

Spatially-Defined Search Areas

In 2007 a snapshot study was undertaken in **fifteen urban centres** to identify vacant land and existing buildings which could be used for low-income, affordable and gap housing.^[25] The urban centres studied were Amanzimtoti, Chatsworth, Hillcrest, iTrump, Kingsburgh, KwaMashu, Newlands, Phoenix, Pinetown, SDB, Tongaat, Umhlanga, Umkomaas, Umlazi and Verulam. The study found 3,000 vacant land parcels in these areas with a combined extent of 1,800 Ha.

Roughly a third of this land was owned by the municipality or other government institutions. When appropriate densities were applied to the vacant land within the urban centres and assuming all of the land was to be available for housing, then significant numbers of new units could be built. The study recognised that only a portion of the land would likely be converted to housing but the benchmark exercise illustrates the potential densification in the urban centres.

Recognised urban centres are not the only suitable locations for achieving higher densities. The major passenger transport routes deserve similar attention. A spare residential capacity study was conducted as part of the study of the R102 Corridor from Warwick to Bridge City.^[26] It found significant potential to densify, in the form of unused development rights, as well as in the form of infill opportunities on vacant land. Similar exercises should be conducted for example on the Integrated Rapid Public Transport Network Corridors (IRPTN). Additional Search Areas for Land Assembly for Urban Development were identified, namely the Urban Restructuring Zones Phases 1 and 2



Land Assembly Constraints

"Land availability and land demand for low income housing has been addressed to an extent in the Ethekwini Housing Unit's Strategic Housing Framework. A number of constraints to land acquisition need to be acknowledged. These include amongst others, the lack of well located and suitable land, poor geo-technical conditions, high land values, competing land uses, environmental restrictions, land claims, conflicting interests especially with adjoining communities.

In addition the acquisition of land, particularly in cases where there is mixed land ownership, i.e. a combination of either Municipal, State, private and unregistered owners, has resulted in the need for different approaches to negotiations and different procedures for acquisition. This has resulted in unnecessary delays and often frustration. Despite the difficult context in which housing officials have had to operate, the identification and assessment of land for housing continues. "

Well-located land is contested by land uses other than housing.

Land Assembly Required

²⁵ A strategy-level pre-feasibility study on the accelerated delivery of housing and related infrastructure and on densification. Unpublished. Ethekwini Municipality. Prepared by Anton Aiello Consultancy in Assoc with Project Preparation Trust. 2007

²⁶ Conceptual Proposals for CBD to Bridge City - Public Transport & Integrated Land Use Corridor. Ethekwini Municipality. Prepared by Anton Aiello Consultancy. 2010

²⁷ Integrated Housing Development Plan. Ethekwini Municipality. April 2006

“The total target for greenfields related projects is 120,000 sites which translates to a vacant land requirement of approximately 6,000 hectares assuming a density of 20 dwellings per hectare as per current conventional housing delivery.”
[28]

If the current intentions of achieving gross densities of significantly greater than 20 dwellings per hectare are achieved, then the land assembly target could be reduced.

“If the demand for greenfields sites increases as a result of an unanticipated increase in the number of relocations required from informal settlement interventions, the amount of vacant land required for greenfields projects will increase as well. Greenfields projects require well-located land ideally in proximity to the informal settlements the residents lived in before relocation. Land acquisition and assembly is a critical aspect of Upgrading projects and of Greenfield projects. In the context of National Government imperatives as well as IDP objectives, the focus will be on increasing housing densities in appropriate locations thus reducing the amount of vacant land required. This shift towards eliminating urban sprawl and towards more sustainable settlements is acknowledged and accepted as it also drastically reduces the amount of funding that the municipality will require to budget for extending bulk infrastructure and providing new community facilities. ” [29]

The Housing Unit has a section in charge of land assembly for housing projects. This section works principally on request by the Housing Planning and the Project Management sections; they identify land suitable for housing projects.

Funding

For the reason that land prices vary considerably because of location, the costs of land have been taken out of the housing subsidy to allow for the assembly of higher priced land.

Funding for land assembly has not been sufficient in the past.

The institutional responsibility for land assembly and release for housing and other public purposes is diffuse, and several government units have legal competence, namely:

The Department of Human Settlements
The Department of Land Affairs
The Housing Development Agency
Municipalities, other government institutions and State-owned Entities

Funding is a key challenge for the Land Assembly function, as:

- The Department of Land Affairs has limited funds for urban application.
- The Housing Development Agency has limited funds.
- Municipalities, other government institutions and State Owned Enterprises have to release land at market value; though there are exceptions. Other government institutions have often been slow to make land available.

The intention is to utilise a portion of the USDG funds to access better located and hence more expensive land for public housing.

28 Ibid

29 Integrated Housing Development Plan. Ethekwini Municipality. April 2006

B4.3 Key Challenges Relating to Human Settlements in Ethekwini

Urbanisation has been one of the most significant demographic and settlement trends over the past few decades.

In 2007, Ethekwini had approximately 3.6 million in some 900,000 dwellings.^[30] This is expected to increase to 3.7 million citizens by 2020^[31] and by 2035 to 4.0 million citizens^[32]. The increase from 2007 to 2035 would be 14%. The majority - 86% - of Ethekwini's citizens in 2007 were urban – i.e. 3.014 million,^[33] and rural citizens numbered 0.511 million.^[34] There are presently no projections on how the distribution might change, but it seems likely that the urban periphery will continue to be a major destination for newly urbanising citizens, unless active steps are taken to promote a different pattern of urban growth.

The increase of dwellings from 2007 to 2011 was a growth of 4.5%. The latest Dwelling Count and population modelling is shown below

Type	Sub Type	Households	Population	% of Population
Formal	Houses	414,357	1,597,455	43%
	Flats	110,225	320,113	9%
	Hostels		110,152	3%
	Hotels		10,512	0%
	Sub Total	524,582	2,038,231	54%
Informal	Single Dwelling	265,542	955,951	25%
	Backyard	48,975	191,003	5%
	Formal Informal	3,096	13,347	0%
	Sub Total	317,613	1,160,301	31%
Rural	Cluster ("Umuzi")	70,317	379,713	10%
	Single Dwelling	26,949	145,525	4%
	Formal Informal	6,449	33,781	1%
	Sub Total	103,715	559,019	15%
TOTAL		945,910	3,757,551	100%

In order to improve the management of the urbanisation process, Ethekwini may in future need to identify Reception Areas for in-migrants since in this way the municipality can provide services in a more sustainable manner.

The average residential densities of the metro as a whole are generally too low to sustain public transportation and other infrastructure, or to promote the municipal economy.

The gross municipal residential density is 3.75 dwellings per hectare,^[35] and 55% of the municipal surface has an average residential density of 3 dwellings or less.^[36] In areas where the residential densities are significantly higher – Inanda-Ntuzuma-KwaMashu (INK) and, Umlazi and Chatsworth, Cato Manor and Berea, Durban CBD, Pinetown, Clermont and KwaDabeka – public transport is more viable. Public transport requires gross densities in order of 60-90 dwellings-ha in order to be self-sustaining without subsidisation. Ethekwini has a massive

30 Ethekwini Metropolitan Area Zonal Forecasts Project, Tech Note 2 Rev A Base Year Population & Employed Residents. Ethekwini Municipality. 2009

31 Ibid

32 Ibid

33 GIS Dot Method Dwelling Count. Unpublished. Ethekwini Municipality. Prepared by Magill Products. 2009

34 Ibid

35 Ethekwini Densities. Unpublished. Ethekwini Municipality. Prepared by Anton Aiello Consultancy. 2010

36 Ibid

challenge to overcome since there are only a small minority of areas that come anywhere close to these sorts of densities. Densities tend to change slowly over time and therefore urgent and consistent attention needs to be given to enhancing densities in all areas and in particular within walking distance of the IRPTN.

Availability and cost of well-located vacant land and underdeveloped sites is a serious problem especially because the sustainability of settlements depends strongly on their location and accessibility.

Well-located land – whether vacant or underdeveloped – is generally expensive and subject to competition from other uses. In the past the cost of land acquisition was capped by the limit imposed by the housing subsidy. This no longer applies, but adequate budgets and programs for land acquisition have not been established. Consequently the acquisition of land for human settlements has suffered.

The Department of Land Affairs (DLA) reports that it does not have sufficient budget for land acquisitions in Ethekwini . The HDA has a mandate to acquire land for human settlements but is currently only involved in land acquisitions in the Cornubia project in Ethekwini .

Land supply is challenging. Land owned by the municipality can and often has been used for housing purposes, but is usually subject to intense competition for other uses. The processes to use land owned by other spheres of government for housing tend to be complicated and time consuming. In addition land owned by SOEs is being treated as a balance sheet asset and consequently sold or let at market prices. At market price, acquisition of private land is often the faster option.

Densification and extension of existing informal settlements is ongoing.

Funding constraints include the absence of a densification subsidy, and insufficient funds for local infrastructure.

The demand in the low-income sub-market is very significant.

In Ethekwini the demand for low-income housing is estimated at 317,613 to 421,328 dwellings (1,160,301 to 1,719,320 residents) ^[37], who make up between a third to 45% of the municipal population).

Informal settlements in urban areas are the largest challenge.

“Informal settlements must be integrated into the broader urban fabric to overcome spatial, social and economic exclusion. ” ^[38] This will require a range of short- and long-term responses, including interim relief, incremental upgrades, planning and management of informal settlements, greenfields, and sustained, long-term upgrading programs.

In Ethekwini since 1994, public investment has provided 163,746 ^[39] new housing opportunities. Many more households still live in inadequate human settlements, either because their shelters are inadequate, and-or they do not have access to basic infrastructure, social facilities and economic opportunities. The problem is most visible in informal settlements.

The problem of Ethekwini ’s informal settlements is large, and is set to become more so as the province’s population urbanises. As the largest and most economically active city in the province, Ethekwini is likely to attract more than a proportionate share of the province’s urbanising citizens, and from elsewhere in the country and beyond the borders.

Hostels are a major challenge.

Ethekwini has hostels with 110 000 official beds. An upgrading and rebuilding program has started, using funds from the Community Rental Unit (CRU) program. This program improves the living conditions of the hostel residents substantially but it is by far not sufficient for the scale of the problem and it does not integrate the hostels socially into the surrounding neighbourhoods.

Some Bad Buildings exist in the inner city.

Some buildings have been taken over by Social Housing Institutions (SHI) who have refurbished them as rental units. Although Bad Buildings are not a major problem in Ethekwini it needs to be continuously addressed.

37 Cross-tabulation by the authors of the Jan 2011 Ethekwini Housing Stats and the 2007 GIS Dot Method Dwelling Count

38 The Comprehensive Plan on the Development of Sustainable Human Settlement. National Department of Human Settlements. 2004

39 July 2011 Ethekwini Housing Stats

The rural low-income demand is significant, and is expected to grow.

The demand in 2001 was officially estimated at 60,182 dwellings.^[40] The estimate however treats all traditional dwellings as being inadequate shelters, in contrast to the common perception that traditional homesteads are often a better shelter solution than newly-built subsidised housing, although clear incidences of inadequate shelters exist. There is not sufficient information on rural shelter to clarify the situation. For KZN as a whole the de-densification of some rural areas is likely.^[41] But this is unlikely to apply in Ethekwini. Two other scenarios are more likely: continued densification of rural areas and their gradual transformation into suburban areas, and/or: the retention of rural settlements at low densities, especially where the municipality actively promotes agricultural use of the surrounding land.

Development of services and social facilities is often not aligned to greenfields housing projects.

This results in projects being delayed or citizens of new settlements not having access to services and amenities.

Formal property markets are not working efficiently for the low income and affordable housing income groups.

One reason is that formal transfer processes are expensive and time consuming. Poor households often rely on the informal property market. The informal property market is insufficiently recognised and regulated by the state and other decision-makers. This leaves the poor exposed to exploitation.

Low income housing tends to distort the housing market. The typical RDP house costs around R120,000 but is provided free, and is consequently perceived as having a low market value.

The housing policy seeks to support households seeking accommodation in the affordable market segment, but the financial capability of people in these markets is significantly over-estimated, whilst the cost of delivering such housing is typically under-estimated.

Although no conclusive figures are available it is commonly held that the unmet demand is also significant in the affordable housing sub-market.

The rental market is significant.

It is estimated that 33% of households in Ethekwini rent their accommodation. There is significant rental stock in the denser parts of the city. In suburban areas and townships, small-scale rental is prevalent, particularly in low- and middle-income areas. Backyard rental and sub-rental in existing houses are significant housing providers and have potential for expansion. The advantages of promoting rental in the suburbs are increased densities and social mix, and increased utilization of existing services and facilities. There is currently no enabling framework for this to occur.

As in most SA cities, jobs are not where the people live, and vacant land for housing is not where the jobs are.

Most jobs in the manufacturing, warehousing and transport industry are located in the centre, south and west of the municipality but a large number of workers live in the north. Vacant land for low-income settlements has predominantly been identified in the north. The long distances between residences and employment need to be addressed. The future economic and residential growth area of the metro is predominantly to the north- this development has been occurring for the last decade and this momentum will increase with the development of the Dube Trade Port and surrounding areas.

40 Census 2001. Statistics SA. 2001.

41 Personal communication with Frikkie Brooks, Office of the Premier, KZN Planning Commission

B4.4 Response to the Key Housing Challenges

“Sustainable Human Settlements” is the departure point for framing the key challenges, and for formulating a strategic approach, programs, and project priorities.

Challenge	Strategic response	Responding program
Urbanisation	Sustainable Human Settlements	
Low residential densities	Typological strategies	
Well-located land	Land assembly strategies	
Informal Settlements		Informal settlement upgrading
Densification of informal settlements	Typological strategies	Informal settlement upgrading
Funding constraints	Funding strategies	
Low income housing demand		Government-funded housing programs
Hostels	Access control strategy	CRU
Bad Buildings	Enforcement of by-laws	Social Housing
Demand for rural housing		Rural Housing Program
Social facilities not available in Greenfield housing projects	Prioritisation through “Access Model”	USDG, the investment programs of external units
Formal markets not working for low- and affordable housing income groups	Recognition of informal and functional tenure	Informal settlement upgrading
Demand in affordable housing		FLISP, Social Housing, mortgage guarantees
Demand in rental market		Social Housing, CRU
Long distances between residences and jobs	Prioritisation of projects according to accessibility by PT	

B5 Community Infrastructure Review

Definition

Social facilities are those publicly and privately owned and operated properties and-or services which are publicly accessible, which deal with social development and socio-economic development, and which are necessary components of sustainable human settlements. Social facilities include:

- Health
- Fire Protection and Emergency Services
- Police
- Education
- Sports and Recreation
- Social Grants
- Cemeteries
- Government Offices

Access Model

The Access Model ^[42] assesses the accessibility of the social services that contribute to a quality living environment in Ethekwini . Accessibility mapping techniques are used to map areas with insufficient access to community social services, as well as to indicate the likely un-served demand for services. Key outputs are the calculation of facilities backlogs for current development and that of the 5-year low-cost housing plan. The social services currently included in the Access Model are Primary Health Clinics and Health Posts, Community Health Centres, Primary Schools, Secondary Schools, Libraries, Fire Services, Community Halls, Sports Fields, Indoor Sports Halls, Sports Stadia, Swimming Pools, Cemeteries, Parks, and Police.

The model can be used to prioritise housing projects and potential land for housing projects with regard to accessibility of existing social facilities with capacity to serve additional people.

Service Levels and Backlogs

According to the Access Model, the current levels of service for social facilities are as shown alongside. ^[43]

A capital development program is in the design phase to respond to the most critical geographic areas currently experiencing under-provisions of service. Overcoming under-provision in security, fire protection, health care, education (including libraries), cemeteries and basic recreation are likely to be prioritised.

Primary Health Care	44.00%
Fire	28.00%
Education (primary schools)	17.00%
Education (secondary schools)	23.00%
Libraries	28.50%
Sportsfields	8.90%
Swimming pools	29.70%
Sports Stadia	20.10%
Community halls	20.60%
Indoor sports halls	28.60%

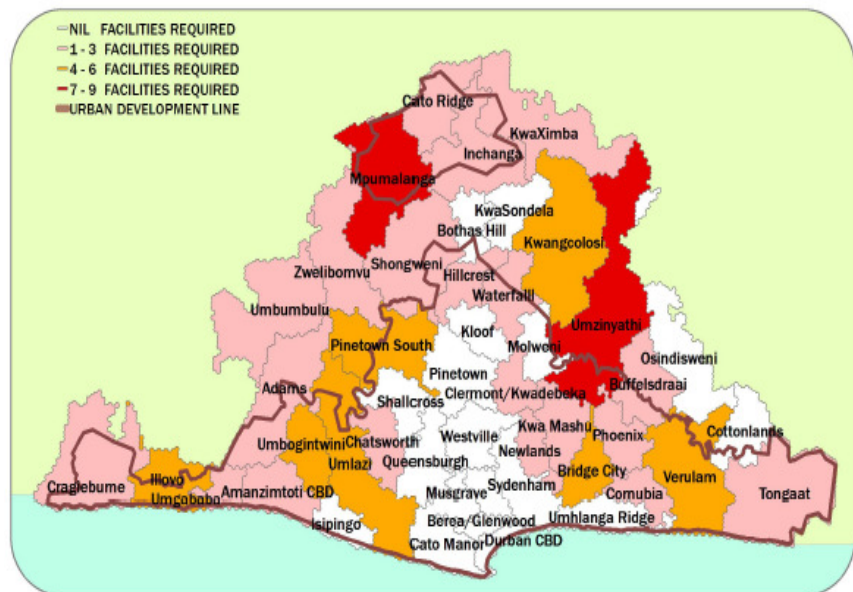
42 Accessibility Mapping & Optimisation of Community Social Services In Ethekwini . Ethekwini Municipality. Prepared by the CSIR. 2008

43 Annexure B - 2013-14 Plan 3 SDBIP and Scorecard, and Plan 9 Scorecard

Funding

About R 4.5 Bn ^[44] would be required for the construction costs of all facilities proposed by the Access Model. Additional funds would be required for land acquisition, equipment, staffing, and other operating costs. For the MTEF period ending 2011-12, Ethekwini municipality committed R 83 million for a pilot program for essential social facilities.

Social facilities are either funded by the municipality or provincial line departments. For some types of facilities such as libraries and clinics there are overlapping funding responsibilities.



PROVINCIAL FUNDERS

The KZN HS Social and Economic Facilities Program provides funding for facilities if no other funding is available. "The Program deals with the development of primary public, social and economic facilities within existing and new housing areas, as well as within informal settlement upgrading projects, in cases where municipalities are unable to provide such facilities. Capital funding for the following facilities may be provided through the Program: Medical care facilities; Community halls; Community park, playground; Taxi ranks; Sport facilities; Informal trading facilities; and Basic ablution facilities for the above. " ^[45] This program is relatively new and its use in Ethekwini needs to be considered.

CITY LINE DEPARTMENTS

The city line departments fund social facilities that fall under the responsibility of the local sphere of government. Libraries have been commonly funded by the city, despite them being a provincial responsibility.

COORDINATION OF FUNDING

The Sustainable Human Settlements Strategy for KwaZulu-Natal, once adopted or implemented, proposes a better coordination of funders of social facilities to create human settlements. Implementation mechanisms will need to be introduced.

44 Budget and phasing recommendations for an Investment Program for Social Facilities. Unpublished. Ethekwini Municipality. Prepared by Anton Aiello Consultancy. 2010

45 The National Housing Code, 2009: Part 1 Simplified Guide to the National Housing Code. Department of Human Settlements. 2009

B6 Transportation Review

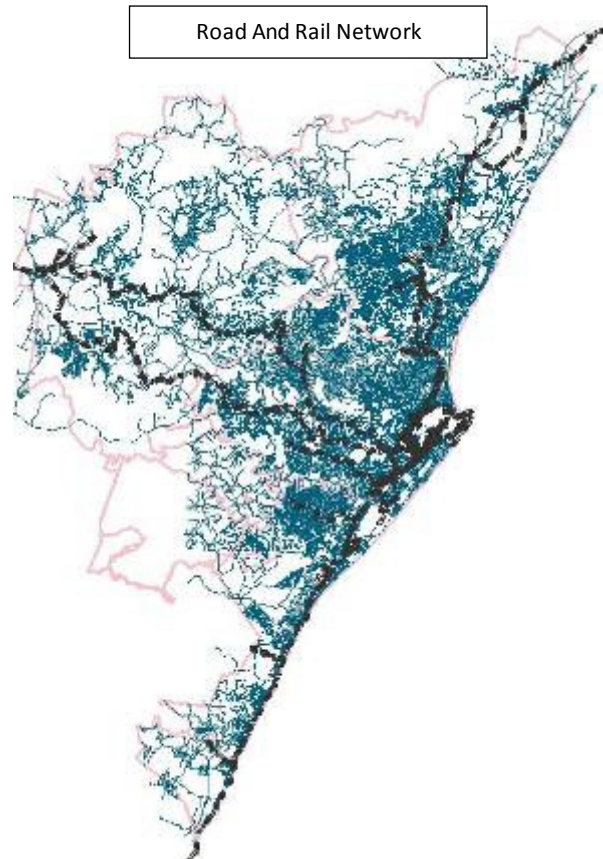
Service levels

Ethekwini has a well developed road and rail network, despite the significant topographical challenges. The network has a well-articulated hierarchy.

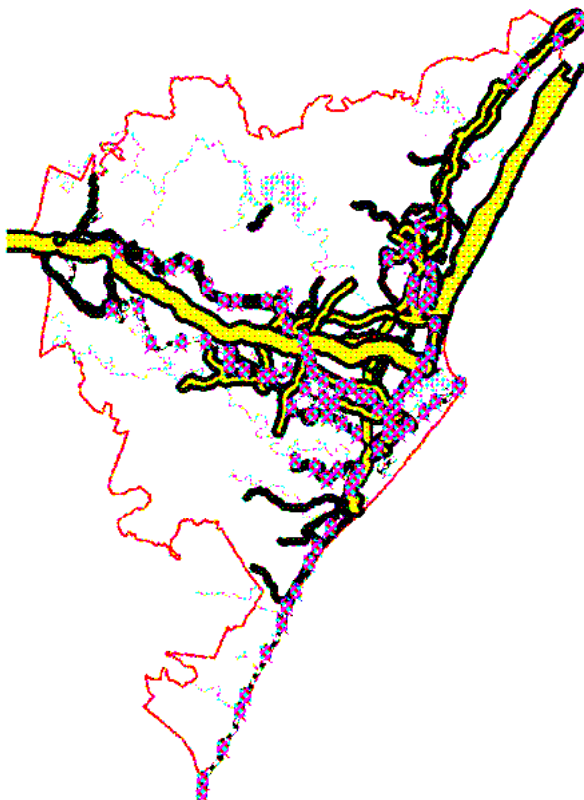
Integrated Transport Plan (ITP) ^[46]

The Integrated Rapid Public Transport Network (IRPTN) identified in the SDF is the foundation of the ITP. The IRPTN consists of North-South railway line from Bridge City to Isipingo and a number of Bus Rapid Transport (BRT) routes. It is planned that the network will have 18 transfer station ranks from rail to busses or minibus taxis

The housing section of the ITP acknowledges the close link between location of settlements and public transport, and the need for the transport department to provide input into the selection of locations for new housing projects. From a transport point of view, the ideal locations of settlements are along the trunk routes. For the commuters these routes are most attractive and high patronage is likely, which in turn



Public Transport System



will increase the viability of the public transport along these routes. Human settlements located outside the trunk routes will be serviced by feeder buses or minibus taxis.

The routing of the trunk routes and the location of the eighteen Transfer Stations has not been finalised. These are critically important for the accessibility of existing and future housing developments. Trunk routes must support high density corridor development as promoted in the Spatial Development Plans. The use of National roads as Trunk Routes must be carefully considered.

46 Integrated Transportation Plan . Ethekwini Transport Authority. 2010

B7 Sustainable Development Review

Biodiversity

The value of natural ecosystems is often defined in terms of their biodiversity.^[47] From a biodiversity perspective Durban is located in an area that is globally significant and is known as the Maputaland-Pondoland-Albany global biodiversity hotspot. This is one of only 34 global biodiversity hotspots recognized by Conservation International. Biodiversity hotspots are areas of high species richness that are also under considerable threat.^[48]

Green Infrastructure Services

What is most significant about the natural ecosystems in Durban is not their international importance, however, but the critical role they play in ensuring the sustainability of the city and the well-being of its residents. This is the result of the range of FREE ecosystem services provided by these natural systems and has led to their conceptualisation as 'green- or bio-infrastructure'. This link between Durban's sustainability and the viability of its natural ecosystems has been recognized since the late 1990's, and has informed the design of the city's open space system known as the Durban Metropolitan Open Space System (or D'MOSS). If open space systems are conceptualised as green- or bio-infrastructure that deliver a range of services - much like a municipal water, road or community health system - then it becomes possible to value the open space system as a city asset in terms of its replacement cost.

The replacement value of the FREE environmental services delivered by Durban's 2002 open space system was conservatively estimated at R3.1 billion per annum. This excluded the value of Durban's tourism sector, which was estimated to have a turnover of R 3.3 billion per annum (2001). If tourism turnover for Durban is assumed to be in large part related to the fact that tourists visit the area because of the sea, sun, beach and overall sub-tropical environment, then a significant portion of the annual tourism-related turnover can be added to the R3.1 billion value of the environmental goods and services delivered by Durban's open space system.

A comparison between the Ethekwini Municipality's 2001-2002 operating (R 6.5 billion) and capital (R 2.78 billion) budgets and the 2003 value of environmental services (R 3.1 billion) revealed that open space plays a significant economic role in the day to day functioning of the city.

Current estimates are that ecosystem services comprise 17% of Ethekwini Municipality's budget. The manner in which this value is delivered to the Municipality is systemic; it provides the environmental stability, clean air, flows of water, and the basis of human well-being that is a prerequisite for other

value-adding activities. Access to ecosystem services therefore represents an important and generally undervalued requirement for the health and welfare of the Durban community.

Trends in Durban's bio-infrastructure

Despite the significant role played by bio-infrastructure in the city, recent analysis suggests Durban is following global trends in terms of biodiversity loss – that is, exceeding thresholds beyond which the supply of critical ecosystem services may no longer be possible.

The first fine-scale systematic conservation plan prepared for the city outlines the required conservation targets for 14 key vegetation types and indicates that it is no longer possible to meet targets (i.e. live within the 'safe operating space') of four ecosystems

Green Infrastructure Services
Gas Regulation
Climate Regulation
Disturbance Regulation
Water Regulation
Water Supply
Erosion Control
Soil Formation
Nutrient Cycling
Waste Treatment
Pollination
Biological Control
Refugia
Food Production
Natural Products
Genetic Resources
Recreation
Cultural

47 Biological diversity or biodiversity is the variety of life on Earth. It refers to genes, species, ecosystems, and landscapes, and the ecological and evolutionary processes that allow these elements of biodiversity to persist over time (National Spatial Biodiversity Assessment, 2004).

48 To qualify as a hotspot, a region must meet two strict criteria: it must contain at least 1,500 species of vascular plants (> 0.5 percent of the world's total) as endemics, and it has to have lost at least 70 percent of its original habitat.
http://www.conservation.org/where/priority_areas/hotspots/Pages/hotspots_defined.aspx

For another five, the city is at or very close to the natural boundaries and ecosystem thresholds of those systems. This leaves five ecosystems where targets can be met. Significantly, these are all located in parts of the city experiencing enormous development pressures, so this situation may soon change if early action is not taken. A significant consideration in this regard is that the majority of the biodiversity assets in the city and the highest value of ecosystem services are located in rural areas under the management of traditional authorities. This suggests a strategic management role for these authorities in any transformative bio-infrastructure vision.

Targets and Deficits for 14 Vegetation Types in Durban

Vegetation Type (KZN classification)	Target for conservation (ha)	Area available in the EMA (D'MOSS)	Protected statutorily in the EMA (ha)	Deficit-excesses (ha)
Dry Ngongoni Veld	4527	7863	0	3336
Moist Ngongoni Veld	3099	3871	0	772
Eastern Valley Bushveld	5020	11182	0	6162
KZN Hinterland Thornveld	1706	3664	0	1958
KZN Sandstone Sourveld	3920	3259	116	-545
North Coast Bushland	8189	9246	11	1067
South Coast Bushland	488	765	0	277
North Coast Grassland	29150	9022	218	-19910
South Coast Grassland	6046	2551	0	-3495
Southern Coastal Forest	5470	8817	531	3878
KZN Coastal Forest	1572	2075	34	537
KZN Dune Forest	888	1285	26	423
Mangrove Forest	65	65	47	18
Swamp Forest	55	51	0	-4

PART C - Strategies and Programs

C1 Long Term Vision

The Integrated Development Plan

The Ethekwini IDP is based on the vision that “By 2020 the Ethekwini Municipality will enjoy the reputation of being Africa’s most caring and liveable city, where all citizens live in harmony. This vision will be achieved by growing its economy and meeting people’s needs so that all citizens enjoy a high quality of life with equal opportunities, in a city that they are truly proud of. ” ^[49]

The vision is to be achieved through implementing eight plans. The Plan for Quality Living Environments is specifically relevant for human settlements. The goal of this plan is to “promote access to equitable, appropriate and sustainable levels of household infrastructure and community services, and facilitate access to housing. ” ^[50]

The Plan for Quality Living Environments is to be implemented through:

- New integrated human settlement developments
- Rental housing
- Addressing backlogs in household services
- Infrastructure asset management
- Sustainable supply of community facilities
- Sustainable public spaces
- Effective public transport

The Plan for Quality Living Environments reflects a broad range of aspects related to human settlement development and indicates that there are line departments that need to be involved beyond the Housing Department. It also shows that the Ethekwini IDP is based on the same principles of sustainable human settlements as the national and provincial policies.

The Spatial Development Framework (SDF) ^[51]

The main spatial planning intentions with regard to housing are to restructure the city towards integration of race and class. Densification is noted as a means to achieve restructuring of the city.

The SDF has the objectives that:

- Densification and Infill should contribute to the restructuring of the urban environment.
- Densification and infill should help to create thresholds for public transport
- Higher residential densities should be promoted around nodes and within corridors.
- Densification should include opportunities for diversification of uses and development of total living environments.
- Spontaneous unplanned processes of densification must be positively managed.
- Infill areas that provide opportunities for linking and integrating peripheral area should be prioritised for development.
- Re-development of under-utilised land should be promoted.

The SDF ^[52] envisions an urban form which is characterised by:

- A compact city model
- Emphasis on accessibility and convenience in more densely populated urban areas
- Durban CBD and South Durban Basin playing dominant roles in job creation and rates income
- Small satellite centres playing support roles
- A high priority public transport network which connects the urban core and the satellite centres
- An informal economy at Warwick Junction
- Upper catchment open space area continuing to provide free environmental services to support the health of the core urban area

49 IDP review 2010/2011. Ethekwini Municipality. 2010

50 IDP review 2010/2011. Ethekwini Municipality. 2010

51 Durban Spatial Development Framework. Ethekwini Municipality. 1998

52 IDP 2010 and Beyond (2006-2011). Ethekwini Municipality. 2010

An Urban Edge (now replaced by the Urban Development Line (UDL)) as a tool to curb urban sprawl, to promote compaction and to achieve associated efficiencies, to secure agriculture and upper catchment environmental assets.

The UDL has been developed essentially in terms of the Cost Surfaces Model which depicts the cost of bulk service provision across the entire municipality. It indicates the boundary internal to which it is currently sustainable to provide a full package of municipal services. In the current municipal Housing Plan, some 80% of the housing projects fall inside the UDL. But a large number of housing projects are very close to the UDL. This bare the danger of the UDL being shifted as it encourages private developers to locate projects in this zone, too. Development is encouraged inside the UDL as it utilises spare infrastructure capacity in already developed areas but some distance from the UDL should be observed.

The SDF identifies spatial investment areas including:

- Dube Trade Port and surrounds in the north
- Back of Port and Durban International Airport site in central and south
- Cato Ridge and Hammarsdale and Mpumalanga industrial precinct.

The SDF has been detailed in four Spatial Development Plans (SDPs).

Ethekwini 's Long Term Spatial Infrastructure Plan (eLSIP)

Arising from the IDP, the SDF and the BEPP is the requirement to express a long-term plan to develop the spatial infrastructure of the municipality. The Development Agenda adopted by the Council in the BEPP 2012-13 includes Strategies and Programs for a Compact, Sustainable and Better Performing Built Environment by 2030. The key (and largely spatial) choices made to achieve this include:

- Taking a sustainable human settlements approach
- The expansion of the port, development and improvement of logistics nodes, and the optimisation of land uses at back of Port.
- The development of priority investment nodes and corridors
- Improving the effectiveness of asset management.

Initial exercises have:

- Identified, classified and categorised the hierarchy of the municipality's nodes
- Identified and prioritised the key investment locations (drawing mainly from the node hierarchy)
- Collated info on projects proposed for each investment location
- Informed the 2012-13 and 2013-14 BEPP and USDG budgets

Further work will :

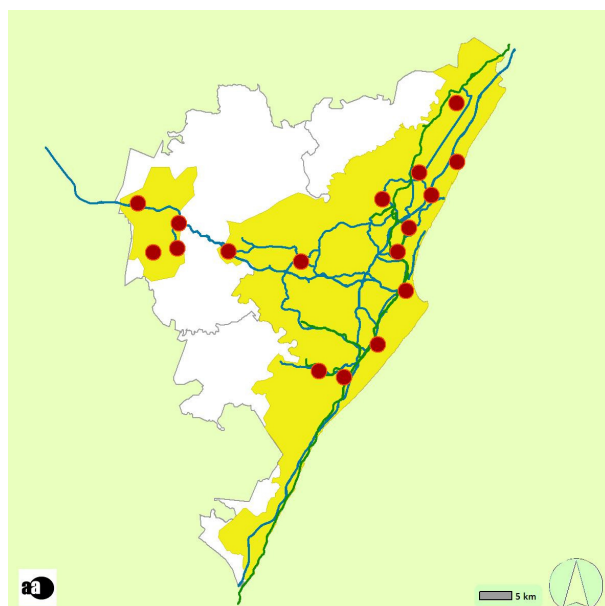
- Synthesise Existing Sector Plans
- Review of Sector Constraints
- Generate Spatial Development Scenarios
- Express the Long-Term Spatial Infrastructure Plan (eLSIP) for Ethekwini
- Feed the eLSIP upstream into the IDP and SDF, and downstream into the Sector Plans
- Feed the eLSIP into the Capital Budget of the municipality via the USDG portion of the Budget
- Incorporate the eLSIP into a single corporate spatial plan.

Ethekwini 's Long Term Spatial Infrastructure Plan (eLSIP) was born out of the Blue Skies process (a.k.a. Ethekwini Catalytic Interventions). eLSIP has the following strategic outcomes:

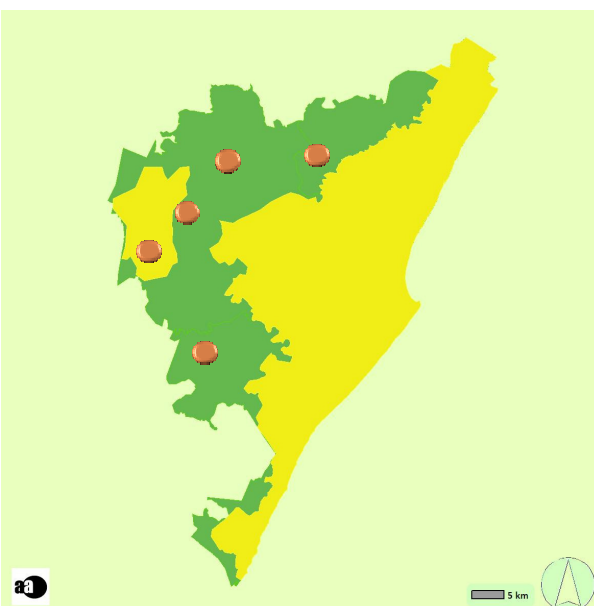
- Intensify, Density and Regenerate the Existing Urban Centres and Key Corridors
- Mitigate Apartheid Spatial Planning and Mitigate the Urban-Rural Divide
- Promote Social Inclusion
- Connect the City
- Retain Existing Jobs and Grow New Ones
- Grow the Rates Base

These strategic outcomes were turned into overarching criteria, and the criteria used to identify Key Investment Locations (Rural and Urban), and to identify projects in Key Urban Investment Locations.

Key Urban Investment Locations



Key Rural Investment Locations



Projects were identified in the Key Urban Investment Locations as summarised below

No. Key Investment Locations	Construction employment per annum	Operational employment per annum	Projected cost to completion (Rand Billion)
19 x Key Investment Locations 5 x City-wide Programs	163,984	228,468	520.37

MULTIPLE INVESTORS

The municipality intends to leverage investment into the Blue Skies Projects from a range of public and private investors, including

- National and Provincial Departments
- State-Owned Enterprises
- EtheKwini Municipality
- Banks and Development Financiers
- Property Developers
- Large, Medium and Small Enterprises
- Households

The Municipality will play an investment leverage role, primarily through:

- Investment prioritisation
- Creating an environment which is conducive to investments by others
- By investing in platform infrastructure.

A current example of the investment prioritisation role played by the Municipality include an Unblocking Developments Initiative, which undertook a systematic analysis of the SDPS' infrastructure demand, a costing of the infrastructure investments required, and a Benefit analysis of the jobs and housing yields of the candidate projects.

Current project examples of the Municipality playing this role include:

- Cornubia
- Port Expansion and Back of Port Redevelopment
- Freight Route

C2 The Metro Spatial Development Strategy

C2.1a Strategic Objectives and Intended Outcomes

The city has made a number of strategic choices to respond to its context within the available resource envelope. Key choices include:

Taking a sustainable human settlements approach

The city's Spatial Development Framework (SDF) promotes a compact city model of urban development, including settlement densification and the imposition of an urban development line to maximize the utilization of infrastructure capacity. Its housing strategy focuses on (i) informal settlement upgrading; (ii) vacant land audits to identify suitable land for greenfield projects to accommodate households requiring relocation from upgrade projects, and their evaluation using the cost surfaces model⁵³; and (iii) a medium density housing initiative specifically targeted at suitably located land with access to infrastructural services, social facilities, and economic opportunities, and the 'gap or 'social housing' market segments. The city has also adopted a compatible social facility provision strategy⁵⁴ that seeks to provide complementary social services on an equitable basis across the city, and is being implemented across all social service sectors; and (iv) A program to provide interim services to 'all informal settlements that will not be upgraded in the next 5 years. '

Port Expansion, logistics nodes and Back of Port land use plan

These projects will be Ethekwini 's key economic drivers and include the development of the Dube Trade Port, the re-development of the Back-of-Port areas and Cato Ridge. The intention is to improve the efficiency of movement for freight, expand and upgrade the Port and its facilities and improve business conditions within these areas.

The development of priority investment nodes and corridors

This initiative seeks to bring economic opportunity closer to people while increasing the overall competitiveness of the Ethekwini economy through reducing dependence on the CBD with its associated costs in terms of travel times and an inefficient spatial form. Four intervention programs are being pursued, namely (i) Strategic township development where public infrastructure can create a conducive environment for local business development and investment. This is supported through the Neighbourhood Development Partnership Grant, particularly in the INK (Inanda, Newlands, KwaMashu) area; (ii) Town centre renewal, to combat the decline of eight suburban nodes through creating an investment friendly environment; (iii) Upgrading of tourism nodes and corridors to broaden the destination profile of Durban by diversifying the range of tourism assets that stimulate economic activity through tourist spend; and (iv) Sector Projects aimed at specific industries, including Renewable Energy Technology; ICT and Agriculture.

Improving the effectiveness of asset management

The city has, over time, made enormous investments in infrastructure to provide services and support economic activity. Ensuring that the maximum value is derived from these assets is critical to the long term economic performance of the city. The improved management and where necessary restructuring of existing assets in order to maximize their benefit to the community is a critical strategic choice made by the city, as evidenced through its significant investment in the rehabilitation of the secondary water main network over the last 3 years, the ongoing restructuring of city bus services and the Community-based maintenance strategy that prioritises job creation. The historical investment also poses a potential risk should these assets be inadequately maintained and subjected to accelerated decay.

- A new asset management system called VSmart has been developed which allows one to
- Analyse the condition of the metropolitan assets across a full range of asset classes
- Analyse the risk implications of asset failure
- View and analyse the geographic locations of asset renewal and rehabilitation needs
- Determine the risks and cost implications of failing to carry out maintenance on key infrastructure assets

⁵³ This is a model that provides high level costing of bulk infrastructure and allows more locational choices of Greenfield housing to be made with an understanding of these bulk costs

⁵⁴ This is based on the Accessibility Model analysis of social service provision which has determined backlogs in provision and the most efficient intervention strategies. This model is now going into an investment planning phase where new sites for social facilities are being identified, together with opportunities for clustering of facilities at nodal points, new delivery typologies (such as stacking of facilities in a single building which allows for improved surveillance, sharing of parking and security, school sports fields and school halls being shared by the community rather than there being double provision etc.) This approach can be seen in the Comubia development to the north near Umhlanga Rocks.

- Determine the risks and cost implications of maintaining assets whose useful life has expired

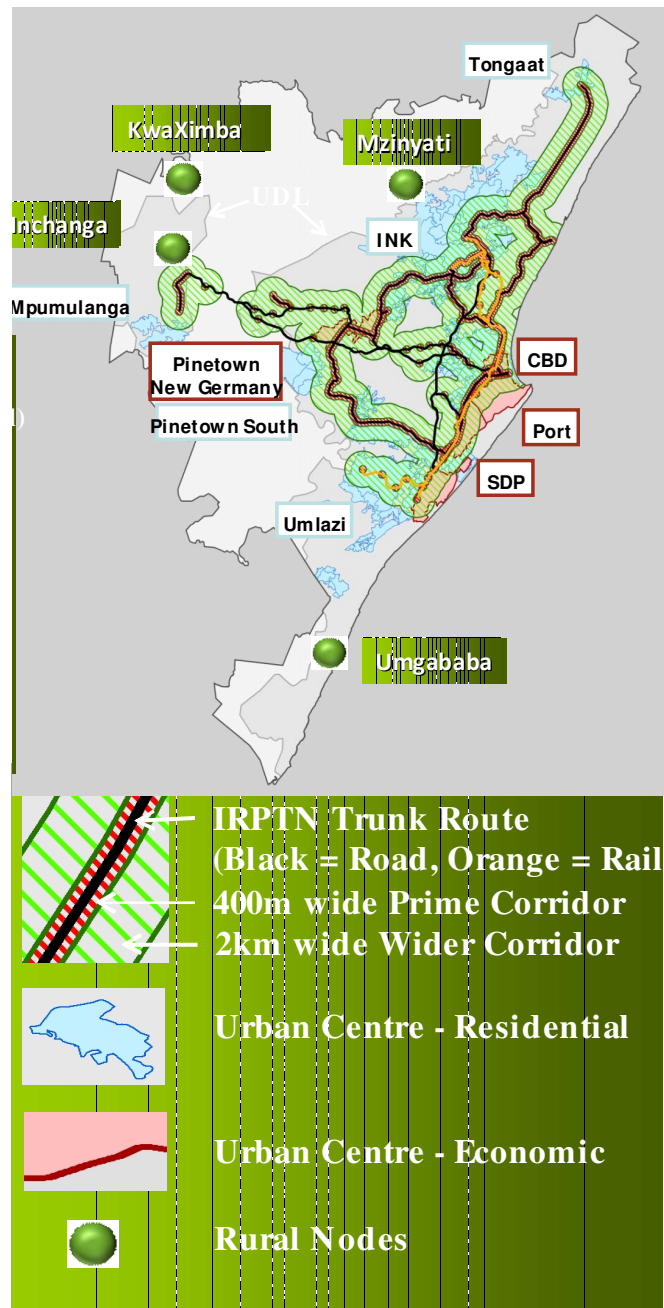
C2.1b Urban Structure

The Municipality has undertaken preliminary work to clarify the Hierarchy of Urban Centres, initially with the purpose of guiding an investment program into Social Facilities, but which has wider application.

Other preliminary work identifies the Key Commuter Corridors as locations for densification.

What has not yet been done is to analyse the densification-related savings on infrastructure investments and operating costs compared to the increased costs of better located land and higher density housing typologies.

Work-in-progress includes a study on the costs to households, the Municipality, and the State of public transport and services. The study analyses the quantum of costs and the allocation to cost centres for different settlement types.



C2.2 The Space Economy

The intended performance of the space economy is to create jobs, reduce poverty and equitably distribute wealth for all citizens in EtheKwini. The region is characterized by high unemployment and high poverty levels, low foreign direct investment, poor partnerships with the private sector, and growth rates not sufficiently adequate to address labor constraints. Globally, the past four years has been dominated by high unemployment, the euro zone sovereign debt crisis and fiscal austerity measures, all of which have had negative impacts on South Africa's job targets as set out in the *New Growth Path 2010* and the recent *National Development Plan 2011*.

Emphasis on Reducing Unemployment

The New Growth Path intends to reduce unemployment from 25% to 15% through the creation of 5 million jobs by 2020 while the National Development Plan 2011 aims to continue the same from 2021 to 2030, by providing an additional 6 million jobs.

Emphasis on EtheKwini as Logistics Gateway

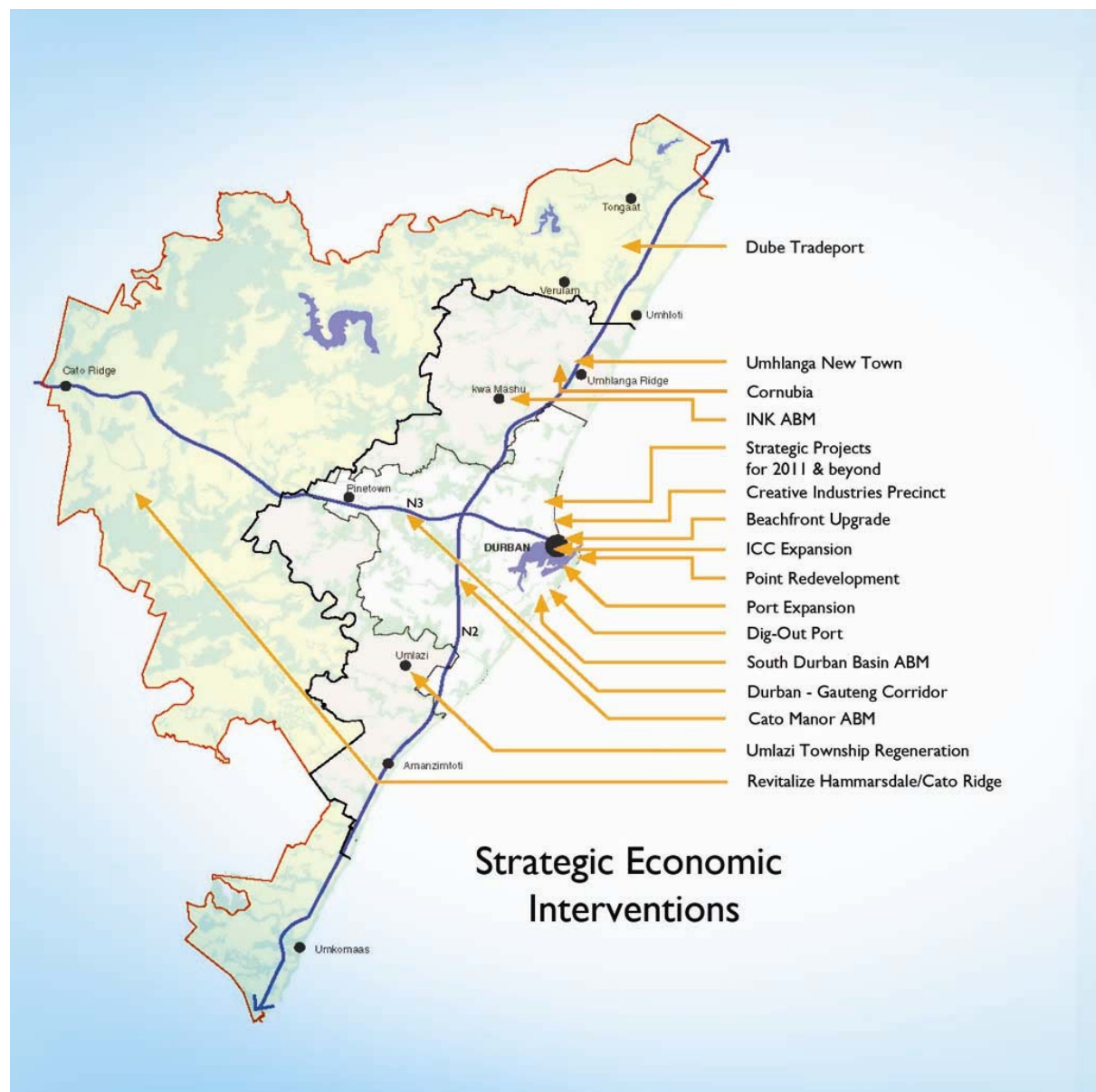
In the 2012 State of the Nation Address, several new plans were announced to enhance the region's importance as a logistics gateway into and out of the country, and increased infrastructure investments. The new corridor between Durban

and Gauteng is intended to improve export capacity through the seaports – that is from the existing Port and the planned Dig-Out Port at the old airport site. Transnet recently announced its intention to spend R21, 3 billion on this over the next 7 years. The further development of the Port of Durban, Dube Trade Port and King Shaka International Airport, as well as infrastructure improvements such as provision of water, energy, road, freight rail and fibre optics networks highlight the critical linkages of the municipality to key value chains located throughout Southern Africa.

Areas of Intervention and Support

- Lobby and provide strategic support for the catalytic economic interventions
- Provide Economic Intelligence and a Strategic Economic Framework
- Stimulate key sectors which promote economic growth and create jobs
- Create a Special-Purpose Vehicle to support, market and promote the local film and digital media industry
- Facilitate and Promote Investment
- Facilitate Nodal Development
- Support the Tourism Sector
- Support SMME Development
- Managing the Informal Economy by providing infrastructure support and development to informal trade
- Support and grow the Fresh Produce Industry
- Develop an Integrated Freight and Logistics Strategic Framework and Plan

The Spatial aspects of the Economic Strategy are represented as follows:



C2.3 Basic Infrastructure

Address Infrastructure Backlogs

The Municipality has as part of its Infrastructure Planning, documented the nature and extent of the urban and rural backlogs in service delivery across the entire metropolitan area, using digital records held by the Municipality together with input from communities and councillors. Services that are being targeted include water, electricity, solid waste, sanitation, storm water, roads and sidewalks, pedestrian bridges, public transport infrastructure, all community facilities and the provision of street addresses to all houses within Ethekwini. In order to address these backlogs, specific strategies have been developed for urban and rural areas.

Service Standards

In rural areas, emphasis is given to the eradication of water and sanitation backlogs. In urban areas the primary intervention is the eradication of informal settlements through the provision of housing and a package of household services, as well as the provision of interim services to improve living conditions in these settlements.

Area	Standard
Interim Service standards	Communal ablution blocks (toilets and showers) within 200m of served households; Electricity to every dwelling; High mast lighting for security; Emergency access roads for waste removal, fire and emergency vehicles.
Rural service standards	One ground tank per household supplied with 300l per day; Urine diversion toilet; Electrification only of densely clustered pockets; All weather surface to all public transport routes and roads within communities having a density greater than 15 person per Ha
Urban service standards	Full pressure house connections; Waterborne sanitation; Electricity connection; All weather surface roads

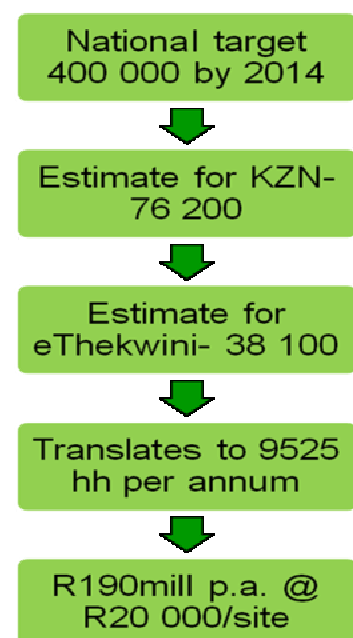
Interim Services

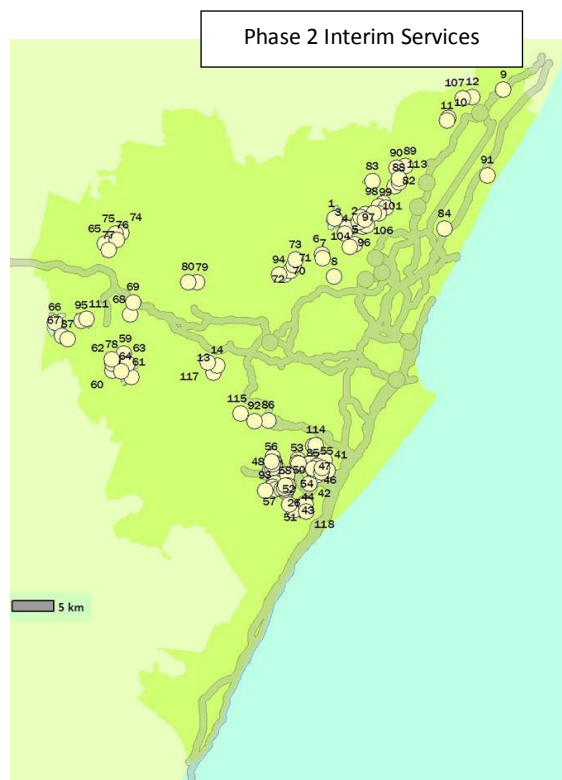
Ethekwini has started an Interim Services Program as a counterpart to the very long-term, slow and resource-intensive Subsidised Housing Program. The intention of the Interim Services Program is to promote social equity and social inclusion by providing every household in the municipality with access to basic engineering services within as short a period as possible. The criteria for selecting Informal Settlements for Interim Services are those settlements earmarked for upgrade in five years or more from now. Features of the Program include:

- Access to social facilities, particularly fire and police stations, clinics, schools, & sports-fields.
- Sustainable livelihoods.
- Use of Local Labour, Contractors, and Material Suppliers
- Community based maintenance of interim infrastructure.

A pilot construction phase is in the close-out phase, and detailed planning of future phases has started, and needs to be continued.

The First Phase of the Interim Services Program is in progress, and will be completed shortly. The Second Phase of the Interim Services Program is set to commence in parallel to the completion of the First Phase. The Second Phase is more than ten times larger than the First Phase, and will run over several years., and will benefit 134,838 households





Services to Social Facilities

In respect of the provision of water, sanitation and electricity to schools and clinics, the role of the Municipality is to ensure that either bulk infrastructure is available to allow connections, or that acceptable levels of service are defined to enable appropriate action to be taken by the KZN Education and Health authorities. Those properties that are at risk of being flooded due to inadequate storm water infrastructure servicing, are being addressed according to their level of risk.

The Infrastructure sector provides the greatest opportunity to maximise the principles of the Expanded Public Works Program and the above services are implemented using labour intensive methodologies where economically and technically feasible. At a community level, the intention is use the infrastructure provision platform to stimulate socio-economic activities within communities, not only in terms of job opportunities, but also with the packaging of 'appropriate' training such as life skills, technical skills and area based livelihood skills for the communities that work on these projects. In addition, in response to growing construction industry demands, a multi-tier contractor development program provides training and mentorship in labour based construction technologies. The focus is on the

number of sustainable employment opportunities (also referred to as full-time job equivalents), training, contractor and cooperative development.



Infrastructure Asset Management

The goal of Infrastructure Asset Management is to meet a required level of service, in the most cost effective manner, through the management of assets for present and future generations. National Government has legislated the need for local government to formulate Asset Management Programs in all sectors. An Integrated Infrastructure Asset Management Plan is being established that will, in the first instance, involve the management of the following strategic assets: Electricity, Water and Sanitation, Roads, Transport, Parks and Leisure, Storm Water, Solid Waste and Property and Buildings. What an Infrastructure Asset Management Plan does is to analyse technically the life cycle of an asset and predict when maintenance needs to be done to the asset before it deteriorates to such an extent that it no longer meets the communities' needs or when the asset needs to be replaced. An innovative approach has, where appropriate, been taken by developing community-based maintenance teams (as part of the Expanded Public Works Program); in order to allow infrastructure maintenance to be done in a way that supports poverty eradication and socio-economic upliftment of poorer communities.

The high value and long life of municipal infrastructure, and the fact that it is central to service delivery, points to a need for this particular group of assets to receive specific and focused management attention. The total replacement value of the infrastructure assets owned by the municipality is more than R 180 billion. Historically, in many areas of Ethekwini, there has been inadequate investment in infrastructure assets and we must now confront the accumulated backlogs and deal with them methodically.

Asset Group	Replacement Value (Billions)
Roads	58,500
Water	23,400
Buildings	23,400
Electricity	20,700
Sanitation	18,000
Coastal & Drainage	17,100
Other (uShaka etc)	12,600
Land	1,440
Fleet	1,350
Durban Solid Waste	1,080
Computers	1,080
Parks	1,080
Ethekwini Transport Authority	720
Total	180,450

The Municipality is on a drive to introduce good asset management practices in all municipal departments. For example, ensuring that there is a greater emphasis on proactive rather than reactive maintenance of infrastructure thus ensures that we are not over-committing funds to building new infrastructure which leads to insufficient funding for the maintenance, renewal, rehabilitation-reinforcement and replacement of existing assets. Managing the demand for new infrastructure is also being promoted. One example of this is the effort being put into reducing the loss of municipal water (and thereby reducing the need for new water infrastructure to be built) through replacing water pipes and repairing leaks, reducing water theft and managing water pressures in the pipe network. Consideration is also being given to, where possible, reducing the dependence on river water as the only potable supply through the re-use of water from treatment works as well as research into sea water desalination. These initiatives are referred to as 'alternative supply' projects. Another example of this type of project is the generation of electricity from methane gas at municipal landfill sites.

C2.4 Residential Infrastructure

Departure Points

Developing "Sustainable Human Settlements" is the departure point for framing the key challenges, and for formulating the strategic approach, the programs, and the project priorities. The municipality's Housing Vision and Housing Mission of 1998, confirmed in 2006, embraces the concept of sustainable human settlements.

The Housing Vision visualises "the creation of sustainable human settlements in Ethekwini Municipality with a view to ensuring that ... all residents will have access to a housing opportunity which includes secure tenure, basic services and support in achieving incremental housing improvement in living environments with requisite social, economic and physical infrastructure".^[55]

The Housing Mission^[56] operationalises the vision statement.

55 Integrated Housing Development Plan. Ethekwini Municipality. 2006

56 A Strategic Housing Framework for The Durban Metropolitan Area. Draft. Ethekwini Housing. 1998

Major obstacles to developing sustainable human settlements are the fragmentation and low-density of the overall city manifesting themselves in problems such as:

- Public transport is inefficient, unsustainable or even non-viable; long commuting times and high transport costs for low-income households
- Inefficient infrastructure, especially high costs per dwelling for installation, maintenance and operations, underutilised capacity
- Economic inefficiencies, especially increased trade costs across many sectors of the local economy through low-density residential customer basis.
- Higher order facilities & economic facilities requiring large geographic catchments and consequently being faraway from much of the population
- Underused public space, which contributes to security and urban quality issues.
- Environmental degradation through high energy requirements of transport
- Challenge to quality of life and to long-term sustainability.

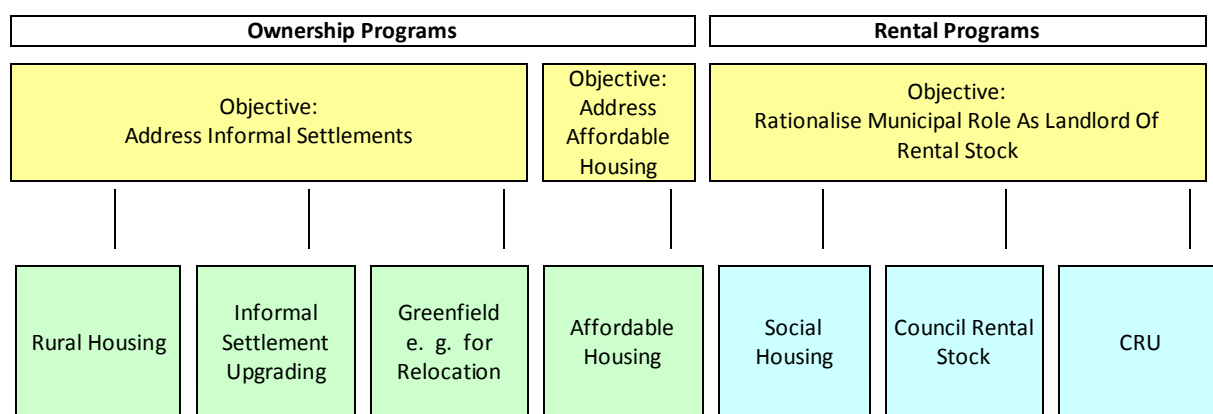
These challenges are principally spatial: - therefore improved locations of housing and improved accessibility, especially of low-income housing, is a major goal of the Housing Spatial Plan.

Program Groups

The municipality has numerous housing programs, some of which overlap. The programs are grouped below in two main groups. The housing programs of Ethekwini Municipality can be distinguished between those which are:

Long-term to ownership - or in case of rural housing to long-term leases

Rental accommodation. This includes rental accommodation over the long-term and rental accommodation being transferred to the residents.



All the housing programs utilise a range of funding programs provided by national and provincial Dons. In addition, the municipality provides top-up funding for numerous programs.

Delivery targets, Budget Requirements and Funding Sources

The target for the delivery of housing opportunities is 32,000 over the whole of the next five year period commencing 01 July 2013 and ending 30 June 2018. Approximately 11 Billion is required to achieve the delivery target.

All housing programs utilise a range of funding programs provided by national and provincial DoHS. Additionally, the municipality provides top-up funding for numerous programs.

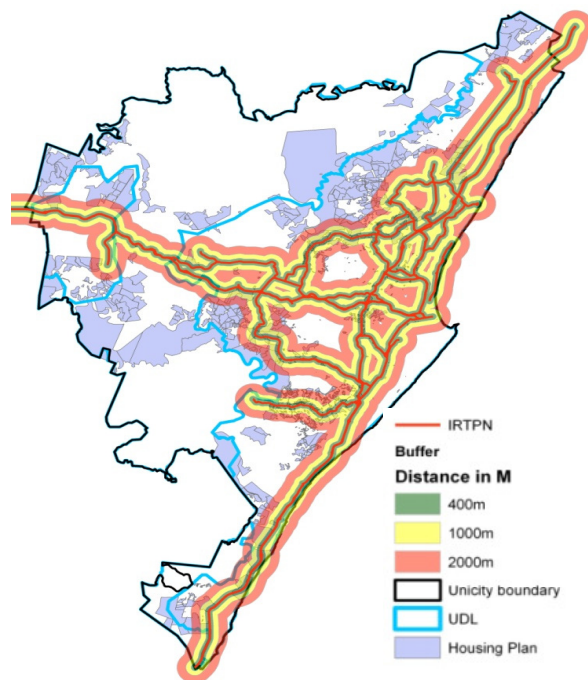
The three largest sources of funding are housing subsidies from KZN, and grant funding for services from national in the form of the Urban Settlement Development Grant (USDG), and internal funds from Council.

A number of risks exist around the current availability of funding. These were described more fully in a preceding section. As a recap, the most important funding risks are:

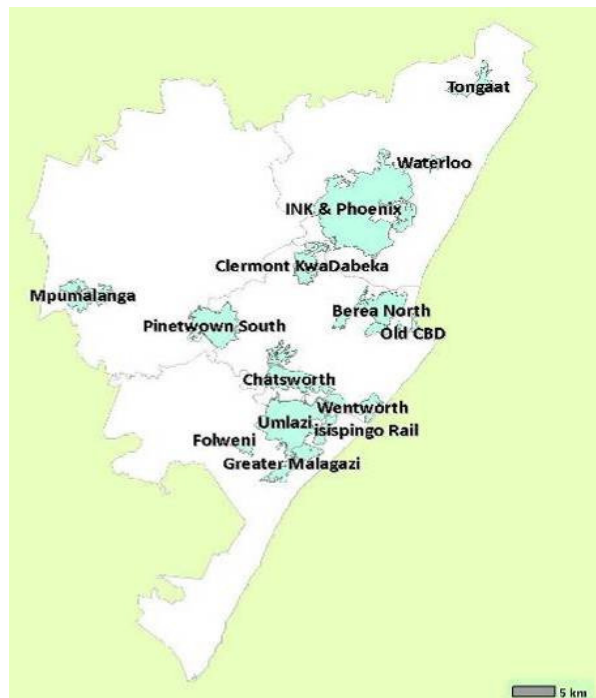
- Outcome 8 shifts the focus of housing to informal settlements but a number of funding issues have not been fully resolved yet. The Upgrading of Informal Settlement Program (UISP) is the principal housing program for incremental upgrading. But the Interim Services program undertaken by the EtheKwini Municipality cannot be funded through this program, because it does not adhere to the pre-defined UISP stages. Until flexibility of the UISP stages is achieved the USDG will be the principle source of funding of Interim Services in informal settlements.
- The IRDG regulations state that land and services components can only be funded if no other funding source exists. With the introduction of the USDG another funding source has been created and the province intends to stop funding these components. While this is in line with the regulations it is contrary to the intention of national for the USDG to provide additional funding to the major cities facing the biggest housing challenges.
- There is a risk of over-reliance on the USDG whenever other funding sources cannot be accessed.
- The EtheKwini Municipality used to provide bridging funding for housing projects but the MFMA no longer allows this. At the same time, housing subsidies are only provided after implementation of work. This contradiction of regulations results in a cash-flow problem.

Spatial Prioritisation Model for Projects Entering the Pipeline

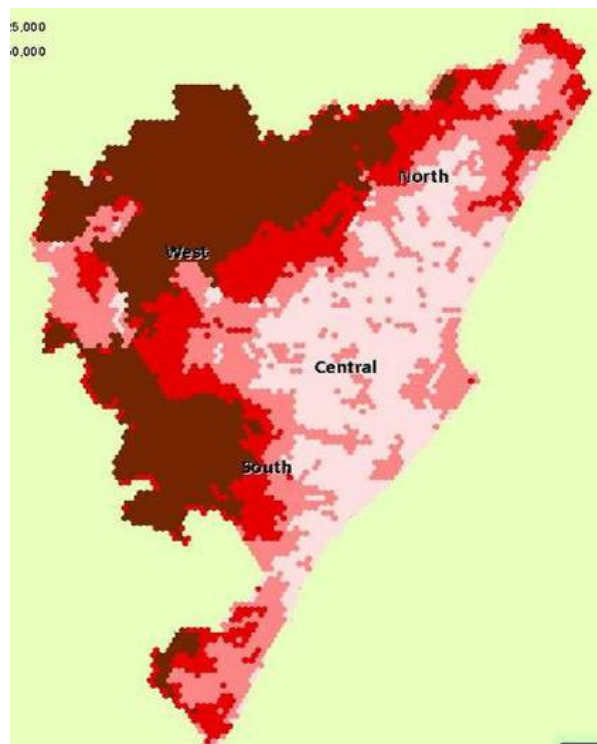
In walking distance of Public Transport Trunks



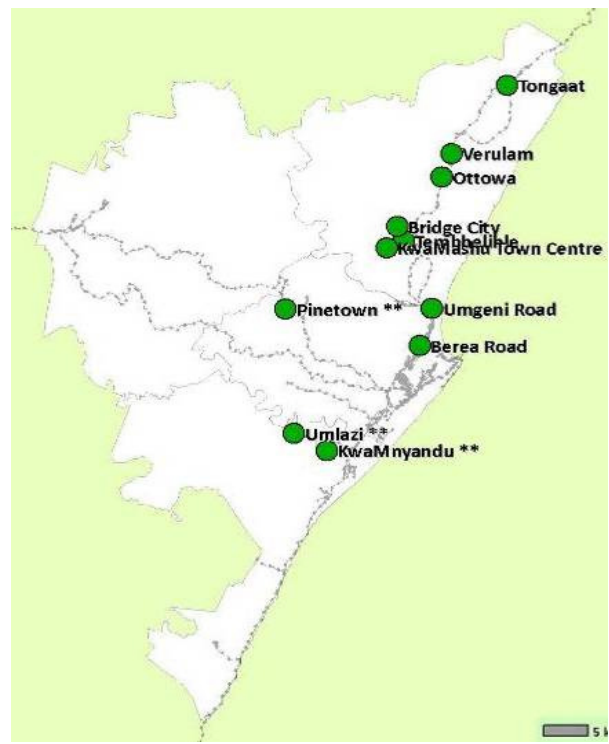
In Urban Settlements whose current densities promote sustainability



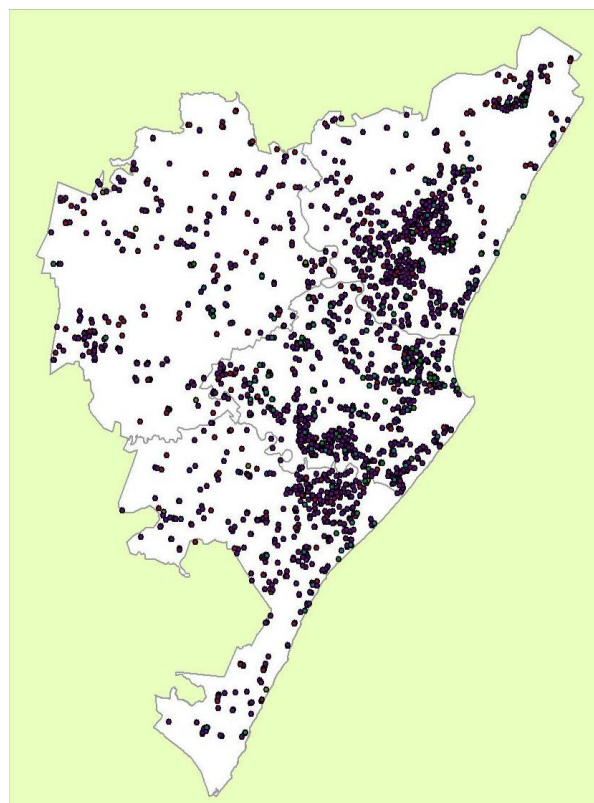
At low investments in new Bulk Infrastructure



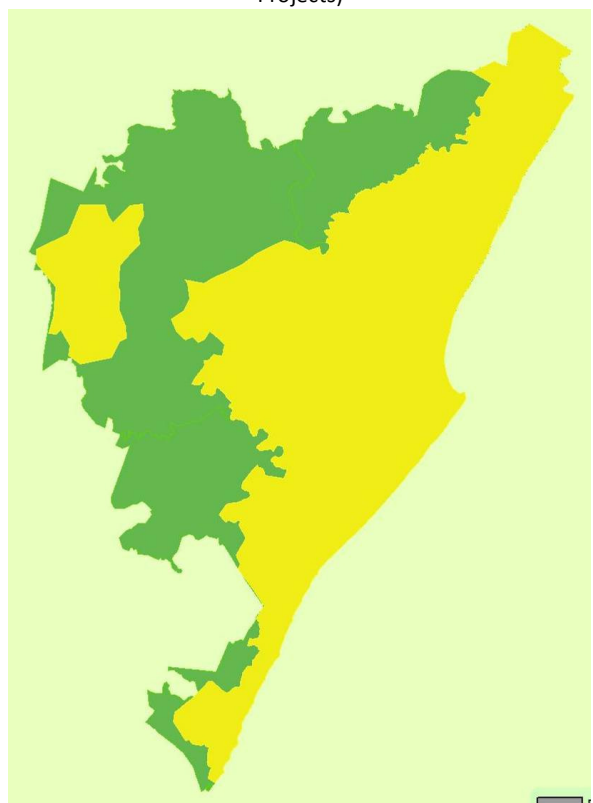
Close to key Public Transport Interchanges



Close to Essential Social Services

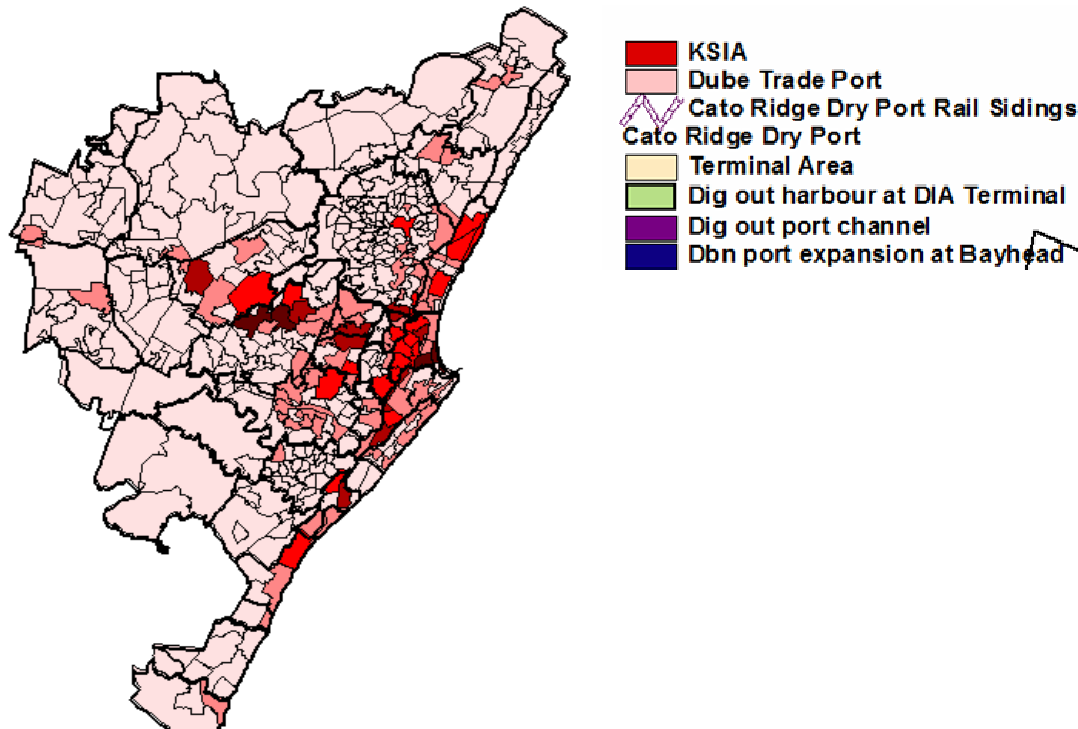


Within the Urban Development Line (Not applicable to Rural Projects)



Close to Existing Jobs

Close to Catalytic Projects



Supportive Strategies

Specific strategies are proposed to increase densities according to the accessibility for locations. These strategies include:

- Funding strategies that increase funding for higher-density housing and social facilities depending on location need to be found.
- Land Assembly Strategies prioritising assembly of land in optimal locations.
- Residential Property Market Strategies stimulating the residential property market in such a way as to promote densification and intensification of use in targeted areas.
- Typological strategies to change the types of top-structures used in housing, as well as to change the configurations and service levels of roads and piped infrastructure. (It is noted that Ethekwini Municipality does not have a densification strategy yet, but a number of housing typologies have been developed at higher densities). The Municipality recently concluded its "Housing Typologies Study" which focused on determining design and cost standards for housing typologies which could be used for low cost housing.

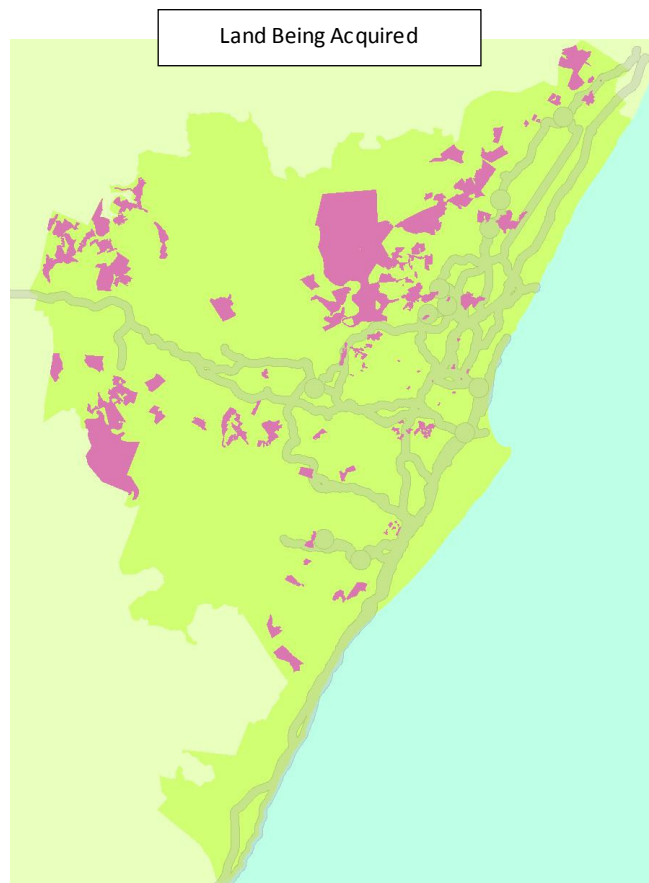
The key findings of the study were that double story duplex typologies were the most cost- effective means to achieve higher densities while promoting simplicity of property management either by individual owners or by landlords.

Land

The municipality is in the process of acquiring or attempting to acquire land for 118 projects. The KZN Human Settlements has granted R 300 million for this purpose. Many of the projects were decided on long before the incoming Spatial Prioritisation Model was conceived, and consequently, several of the properties which are scheduled for acquisition do not conform to the Spatial Prioritisation Model.

In order to assist to bed down the Spatial Prioritisation Model, it is intended to seek additional funding to strategically assemble land in Key Investment Locations, with the first phase of the strategic acquisitions being in the precincts of key Transport Interchanges. Later phases will take into consideration key Urban Centres and Corridors.

Land management is critical to city growth and poverty reduction. Densification of the settlement pattern will lower the living costs of the poor and the cost of doing business. Enhancing tenure security for the poor can stimulate long term savings and enhance household wealth. The challenge for the city is to produce more well-located residential land through strategic acquisition allied with infrastructure and public transport investment programs.



C2.5 Community Infrastructure

Rationale for the Investment Program

The reason for the Investment Program comes from the IDP, in particular the Quality Living Environments Plan (QLEP). The QLEP's goal is to "promote access to equitable, appropriate and sustainable levels of household infrastructure and community services, and facilitate access to housing", and its desired outcome is "appropriately serviced, well maintained, quality living environments".^[57]

The rationale for the QLEP is that "providing a quality living environment for citizens is a core mandate of the Municipality. Though substantial progress in the delivery of housing and basic services has been made, there is still some way to go [...] Once the bulk of these backlogs are dealt with, increasing emphasis will be given to social service provision in line with the vision of creating and sustaining quality living environments. Within communities that already exhibit basic service delivery and housing, social service provision is a priority since these services affect community health, safety, education, recreation and are integral to building healthy, well-rounded members of society."^[58]

QLEP goes on to define Strategic Focus Areas, one of which is to "meet community service needs and address backlogs".^[59]

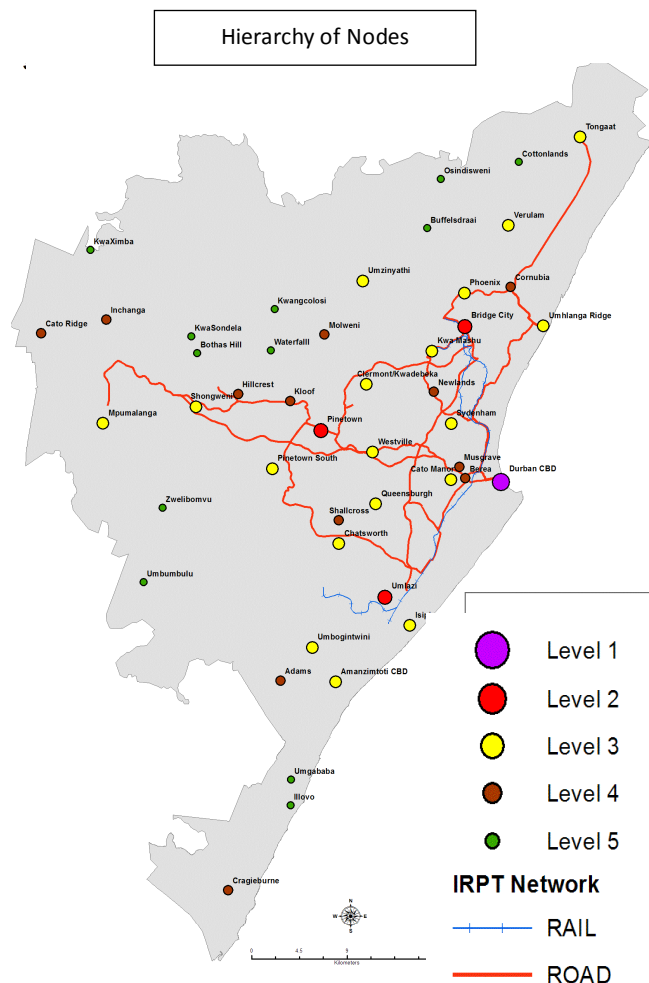
The rationale of the Community Needs Strategic Focus Area is that "improved quality of life for Ethekwini citizens means that they are able to enjoy equitable opportunities to participate in culture, leisure and education, such as are available through community facilities. Ensuring full service provision of community facilities needs to be closely guided by service standards, and requires the necessary operating funds to sustain these facilities on a day to day basis. The provision of community facilities and services is guided by the standards developed by municipal line departments and are based on a combination of national norms and the ability to sustain these standards given municipal budget constraints."^[60]

57 Integrated Development Plan - 5 Year Plan: 2006/07 to 2010/11 - 2010/2011 Annual Review. Draft. Ethekwini Municipality. 2010

58 Ibid

59 Ibid

60 Integrated Development Plan - 5 Year Plan: 2006/07 to 2010/11 - 2010/2011 Annual Review. Draft. Ethekwini Municipality. 2010



The intended scope of the current version of the program is:

- Proposals on the relative priorities of the proposed facilities
- Options for dealing with the backlogs of social facilities
- Illustrative capital budgets

The intended scope of the final version of this program is that it could include decisions and commitments regarding:

- The relative priorities for the creation and commissioning of the proposed facilities
- Plot-specific locations for the proposed facilities within the coarsely-defined locales
- Performance briefs for each facility
- Land acquisition (or land-release in the case of plots owned by EMA)
- Capital investments by a range of public entities
- Operating costs by a range of public entities
- Staffing
- Timing of investments over one or more MTEF cycles

Reconsidering the Basic Approach on Meeting Backlogs

The pricing of the Optimal Locations compared to the Capital Environment prompted the need to reconsider the basic approach.

Some of the new thinking to emerge was to:

- Distinguish Essential Services from Desirable Services, and by applying different accessibility levels for Essential Services and Desirable Services, reduce the capital requirements
- Through the cataloguing process, discover “hidden” facilities – hidden either because they had not been recorded at all or their sizes had been under-estimated (both of which seems to be the case for local and regional parks), or hidden because they have not until now been regarded as social facilities (which is the case for school sportsfields, though with many notable exceptions where school fields also already serve as community fields). The discovery of hidden facilities ought to lead to a revision of the current accessibility, and consequently a smaller backlog than originally thought.
- Reduce the space standards and-or planning thresholds for some facilities, particularly basic recreation. Rather than build new facilities or expand existing ones, increase the operating capacity at existing facilities, through increased opening hours, increased opening days, equipment improvements, and process improvements
- Expand existing facilities rather than build new ones. Only consider building new facilities after the possibilities of increasing operating hours and-or building extensions at existing facilities would not be enough or nearly enough to meet local backlogs.
- If a new facility was indeed required, then consider building it on a site on which there was already another facility.
- If a new facility was required and it could not be built on a site on which there was already another facility, then find a site adjacent to an existing facility, and if this was not possible, then find a site within close proximity (less than 400m). Only consider building stand-alone facilities on their own sites and isolated from other social facilities as a last resort.

Based on the distinction of Essential Facilities and Desirable Facilities, the funding requirements of social facilities is as shown below.

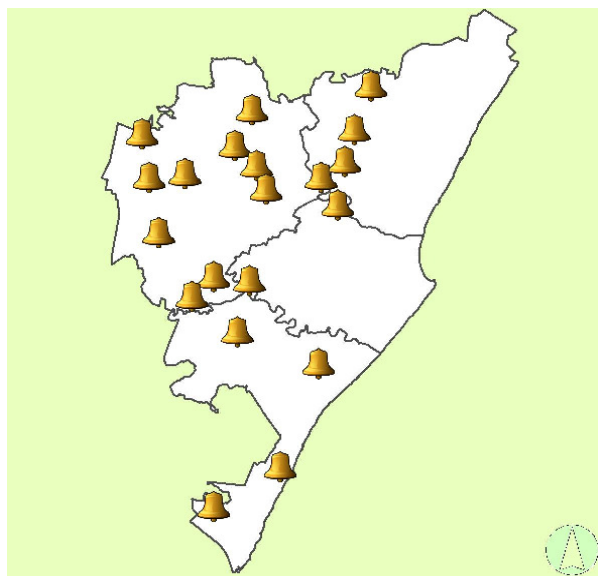
ESSENTIAL FACILITIES	Current accessibility	Accessibility after new 'big impact' facilities	No. of proposed new 'big impact' facilities		Average Total Costs 2013 Baseline
Clinics	56%	93%	19	No.	126
CHCs	56%	93%	7	No.	92
Fire Stations	72%	85%	8	No.	176
Primary schools	83%	100%	20	No.	470
Secondary schools	77%	99%	21	No.	679
Libraries	70%	92%	11	No.	194
Sports Fields	91%	91%	0	No.	0
Cemeteries	-	-	-	Ha	183
Police Stations	?	?	0	No.	
Subtotal			86		1,922

DESIRABLE FACILITIES	Current accessibility	Accessibility after new 'big impact' facilities	No. of proposed new 'big impact' facilities		Average Total Costs 2013 Baseline
Indoor Sports Halls	71%	71%	3	No.	77
Sports Stadia	80%	80%	4	No.	236
Swimming Pools	70%	70%	8	No.	265
Local Parks	Under Review	100%	0	Ha	0
Regional Parks	Under Review	100%	0	Ha	0
Halls (A, B, C)	79%	79%	8	No.	70
Subtotal			23		648

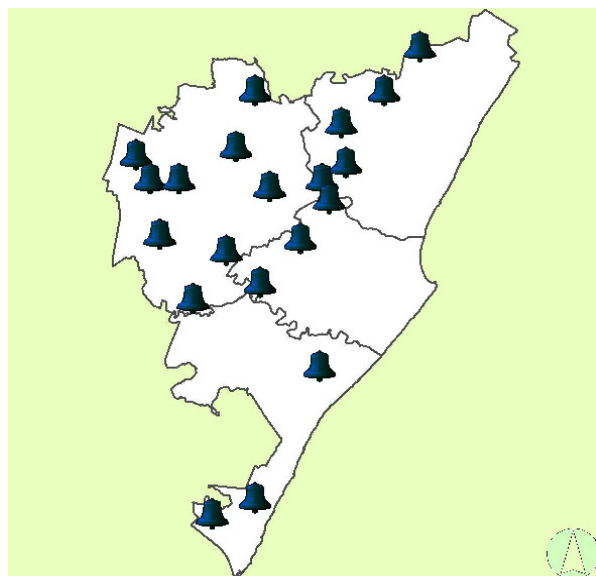
TOTAL			109		2,570
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Spatial Distribution of Proposed Additional Capacity of Selected Essential Social Services

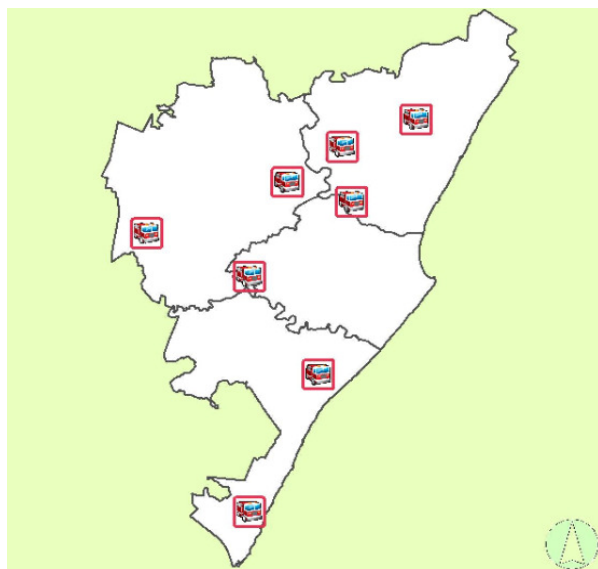
Primary School Capacity



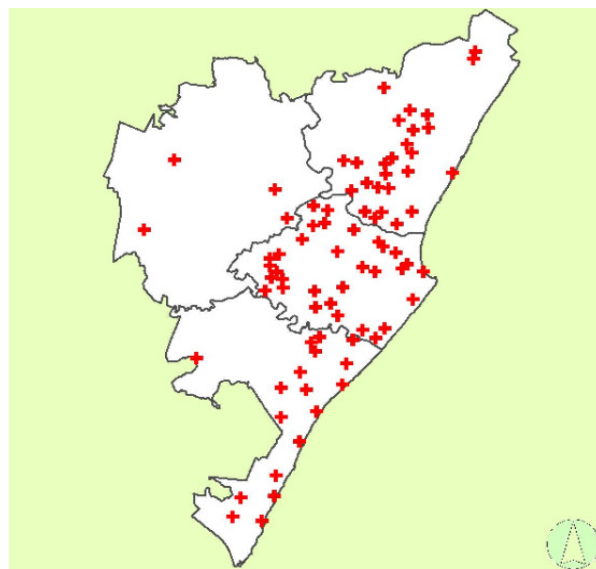
Secondary School Capacity



Fire-fighting Capacity



Health-care Capacity



Sustainable public spaces

Sustainable public spaces are an essential component of a quality living environment. Therefore a strategy is being implemented to improve the quality and sustainability of the public realm, through innovation in urban design responses, and an integrated approach to aesthetics, operations, management and maintenance of public spaces.

Landscape and streetscape design criteria and management guidelines which target economic, social and environmental benefits are being applied within selected pilot projects aimed at improving the quality of living environments in the Municipality, particularly within prioritised corridors and nodes.

A central city area in the vicinity of Gugu Dlamini Park and the Albert Luthuli ICC to Soldiers Way has been designated as a "Priority Zone", and a pilot project to apply the principles of integrated facilities management has been implemented. The results on the ground have been encouraging. Within a year, there has been a recorded reduction in crime in the Zone, as well as a noticeable improvement in litter collection, general maintenance, landscaping cleaning, and traffic management. The Zone now includes the Civic Precinct, and the Old Fort Municipal Complex, where skills transfer and internal capacity building is being included as a major component of the pilot project. A stakeholder perception survey is underway, to

capture the extent to which the improvements have impacted on confidence in the area, and improved the quality of the living environment.

Similar strategic management concepts are being applied within “Priority Routes”, leading to integrated and fully coordinated management of all maintenance activities within the municipality’s road reserves. Major successes were achieved through application of this strategy during the run up to the soccer world cup, which are being sustained and extended, as part of the legacy programs.

Within a selection of public parks, condition surveys have been carried out, to establish the needs and desires of stakeholders and local communities for improvements to the quality of their public open spaces. These surveys have been followed up with community workshops to develop “community briefs” and strategic frameworks, aimed at involving communities in piloting suitable strategies for the development and management of parks.

The sustainable public realm maintenance strategy will ensure that public space redevelopment is designed and implemented in a way that encourages innovative urban design solutions, improves the quality of living environments, and reduces the maintenance costs to local government through enabling coordinated and integrated management of precincts.

Social amenities for Housing Projects

There are two components viz. the backlog of provision of social facilities to housing projects already constructed as well as planning and budgeting for the provision in future housing projects. The backlogs will be dealt with by the Social facility Implementation Plan referred to above and the rate of backlog eradication will be dependent on budget allocations. New projects are required to provide facilities according to the provision standards in the Ethekwini Social Facility Standards document. As part of Ethekwini’s drive to innovate we have established a formal partnership with housing officials in Sao Paulo, Brazil. The Brazilian Housing Model has a strong emphasis on the provision of quality public spaces and facilities and the Sao Paulo professional team was in Ethekwini in June 2012 to review the housing layout in the Welbedacht East.

Social amenities to informal settlements

Social amenities are very important in poor communities. The bulk of social facilities are normally provided in social facility nodes at geographic points of high accessibility. However, we are investigating the provision of a basket of low cost essential social facilities to informal settlements as part of our drive to uplifting the quality of life in these areas. These facilities may include a small library, covered space for gatherings or for an Early Child Development Centre, a Job Linkage Centre or labour bureau, small sportsfield where possible etc. Some initial designs have been generated and show how some of these facilities can be provided in conjunction with the ablution block steel containers (see sketch below). There are three pilot projects being implemented this year and a fourth project (the Lower Malukazi informal settlement) has been selected as part of the Sao Paulo-Ethekwini design workshop which was held in June 2012, with implementation over 3 years.

C2.6 Transportation

Overview

The Integrated Rapid Public Transport Network (IRPTN) identified in the SDF is the foundation of the Integrated Transport Plan (ITP) .^[65] The IRPTN consists of North-South railway line from Bridge City to Isipingo and a number of Bus Rapid Transport (BRT) routes. It is planned that the network will have 18 transfer station ranks from rail to buses or minibus taxis

The housing section of the ITP acknowledges the close link between location of settlements and public transport, and the need for the ETA to provide input into the selection of locations for new housing projects. From a transport point of view, the ideal locations of settlements are along the trunk routes. For the commuters these routes are most attractive and high patronage is likely, which in turn will increase the viability of the routes. Human settlements located outside the trunk routes will be serviced by feeder buses or minibus taxis.

The routing of the trunk routes and the location of the eighteen Transfer Stations has not been finalised. These are critically important for the accessibility of existing and future housing developments. Trunk routes must support high density corridor development as promoted in the Spatial Development Plans. The use of National roads as Trunk Routes must be carefully considered.

Detail

High levels of ridership are key to public transport viability. The highest residential settlement densities are in Ntuzuma, Inanda, KwaMashu and Phoenix located in the northern region of the municipality and the Umlazi and Chatsworth residential areas to the south. Some higher settlement densities are also found along the N3 western corridor.

The bulk of employment opportunities are contained alongside the N2 and N3 including contained the Durban CBD, Pinetown, the South Durban Basin, and the Northern Employment Cluster.

The IRPTN is critical to achieving not only the objective of Ease of Movement and Access to Opportunity but also to supporting the following objectives:

- Equity of access to opportunity
- Reduction in the overall impact of transport on the environment
- Promotion of a liveable city
- Spatial restructuring and improvement
- Quality of service that is acceptable to car users
- Improvement for the City's economy

Currently there are some 600,000 public transport users during the commuter peak period. Assuming a low population growth forecast, this number is unlikely to increase substantially by 2025. However the number of car users is expected to increase dramatically if there is no improvement in the quality of public transport service.

The public transport network comprises a number of elements that include inter-alia trunk routes, feeder routes, complementary routes, transfer stations, park and ride facilities, information, communication technologies, fleet, non-motorised transport facilities, depots and, a transport management centre. The proposed rapid transit network is shown below. Connecting bus/minibus services and local services to key nodes on the rapid transit alignments will complement this network.

In this configuration, C2 is the only rail corridor, with improved infrastructure and services. Apart from C2, Bus Rapid Transit (BRT) provides the main form of public transport. Both rail and BRT are important elements of the IRPTN and working together in an integrated way creates a comprehensive network that attracts high numbers of users, benefiting both modes.

C2 has interfaces with BRT services at a number of locations, which offer opportunities to transfer from one mode to another and in combination provide a wide range of rapid journey opportunities. Retaining C2 as rail has opportunities to enhance BRT also – improving travel opportunities and raising the standard of public transport that will benefit both rail and BRT as more people are attracted to the network. Adding BRT also provides additional capacity with the potential to both expand the market and relieve rail congestion at peak times. With infrastructure improvements in place, the efficiency of rail will improve and hence it can operate more effectively than at present with faster and more reliable journeys.

65 Integrated Transportation Plan . Ethekwini Transport Authority. 2010

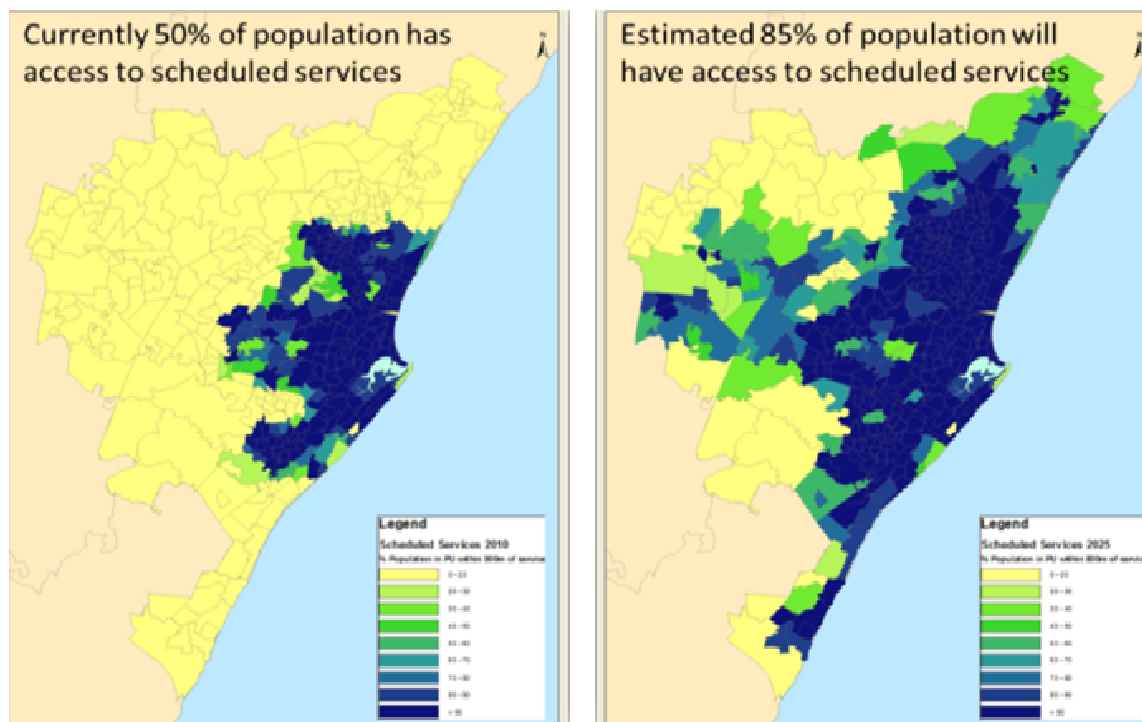


- C1 – Bridge City to Durban CBD
- C2 – North-South Rail Line
- C3 – Bridge City to Pinetown and New Germany via MR577
- C4 – M25 to South Durban Basin along the N2 with a spur along the M7
- C5 – Chatsworth TC to CBD along Higginson Highway & South Coast Rd
- C6 – Mpumalanga to CBD along the N3 with a spur along the M13
- C7 – Extension of C5 to Hillcrest
- C8 – Tongaat to the CBD via Umhlanga
- C9 – Bridge City to Umhlanga via Cornubia

In terms of the operations plan, rail is an integral part of the overall IRPTN and the planned infrastructure improvements to the C2 corridor include, inter-alia: station rationalization, station upgrades, new rolling stock, upgraded signalling systems, upgraded track and the introduction of an integrated fare management system.

These upgrades go towards the completion of a robust Integrated Rapid Public Transport Network that will be able to effectively cater for a range of journey needs

Currently, approximately 50% of the population are within 800m (10-15min walk) of a scheduled public transport service. With the implementation of the IRPTN, this number is forecast to rise to 85% of the 3,600,00 people within the municipality. The following figures illustrate the effectiveness of the coverage at a planning unit level. The IRPTN will enhance the accessibility of the majority of the City's inhabitants to quality public transport services.



The phased improvement of the EtheKwini Municipality's public transport system is intended to incrementally address the needs of travellers while building capacity within the industry to operate and manage more sophisticated transit systems.

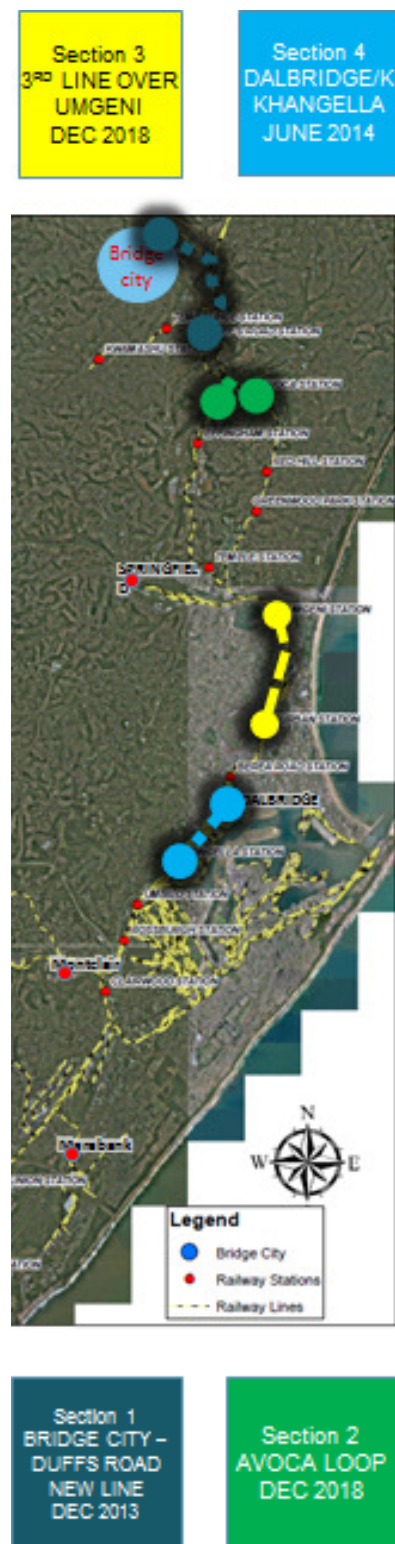
The implementation of the Durban Transport's re-incorporation into the municipality has been delayed due to council not reaching resolution on the best ownership model. In this regard, the ETA is in the process of undertaking a detailed study on the various options available and is actively pursuing alternative means of capacity building within the minibux taxi industry.

Despite this, the following has been achieved:

- Upgrading and refurbishing existing depot facilities, which will form part of the IRPTN
- Procured new fleet (80 Commuter buses and 44 low entry buses) that will be integrated into the IRPTN. In this regard, the 44 low entry buses will be used as feeders in C1 with the remaining commuter buses being used as both feeder and complementary service vehicles on C3, and C1)
- Implementation of EMV based electronic (smart card) ticketing and revenue collection systems that will be the foundation for the Phase 1 IRPTN ticketing and revenue collection system.

A summary of the annual trunk public transport demand accommodated by each phase of the IRPTN is given in the table below.

PHASING		PERCENTAGE OF TRUNK-FEEDER TRIPS	PLANNED OPERATIONAL YEAR
Phase 0	North, South, Central	Not Applicable	2012
Phase 1	C3	25	2016
	C1		2017
	C9		2018
	C2 Rail)	40	2016
	Mynah and People Mover (Inner city)	Undergoing investigation	2015
Phase 1+Rail	C1,C3,C9,C2	65	2018
Phase 2	C5, C7	20	2022
Phase 3	C4, C8	9	2025
Phase 4	C6	6	2027



Since the development of the Phasing Plan and the 2011 funding application, it has been noted that the full funding required for all three corridors in Phase 1 may not be available from National Treasury. A staggered implementation of these three corridors within Phase 1 is therefore necessary.

Corridor C2 is a rail-based corridor system and comprises feeder routes to rail services operated by PRASA, selected upgraded sections of the commuter rail system (existing heavy rail; including the new line to Bridge City); and modernized rail terminals within an integrated network. The major upgrades can be seen in the map below. To date, strategic planning has been carried out on several station upgrades, the tracks (railway lines), Perway (bridges, platforms), signalling technology (robots, points machines and relay rooms), telecommunications systems (surveillance cameras, PA systems and CTCs) and the electrical systems (cables, power lines, gantries). The C2 feeders will be further supported by Non-motorised transport (NMT) infrastructure which is further developed by the adopted NMT policy of Ethekwini Municipality.

The updated Integrated Transport Plan (ITP: 2010-2015), prepared by the Ethekwini Transport Authority (ETA) documents all transport policy, strategy and projects. The overall goal for transport in Ethekwini is to implement an effective, efficient, sustainable and safe public transport system. To this end and in line with legislative provisions, the ETA is developing an Integrated Rapid Public Transport Network (IRPTN) for the entire Ethekwini Municipal area.

The proposed system will comprise feeder routes to bus trunk services, selected upgraded sections of the commuter rail system (existing heavy rail; including the new line to Bridge City) and possibly light rail (LRT), within an integrated network. This system will include, in terms of a defined program, various forms of priority infrastructure for bus trunk and possibly light rail services as part of the Integrated Rapid Transit Network (IRTN). To date, strategic planning has been carried out on restructuring some parts of the public transport services, as well as consideration given to a provisional configuration for an Integrated Rapid Public Transport Network for the Municipal area.

The following steps will take the public transport initiatives on a sustainable trajectory:-

- Firstly, building on restructuring proposals to date, to develop a program for the phased implementation of an Integrated Rapid Transit Network (IRTN) with public transport service and support system plans across the whole of the Ethekwini Municipality. The IRTN will form an integrated system with Integrated Rapid Transit (IRT) and rail corridors; Heavy Rail Transit (HRT) and Light Rail Transit (LRT) where appropriate to meet current and future demand throughout the metropolitan area, on a service-cost effective basis.
- Secondly, to develop a comprehensive business plan and corporate structure plan with documentation for pro forma PT service contracts and related support systems, service contracts.
- Thirdly, to take the corridors adopted as part of the first phase of the implementation program and develop the proposals in adequate detail to provide firm cost estimates for infrastructure and support systems.

Funding for both the infrastructure and operating the system will be motivated for via National, Provincial and Municipal budgeting provisions. The Public Transport Infrastructure Subsidy (PTIS) will no doubt be the key source of the majority of the funding.

Preliminary work suggests that Phase 1 IRPTN projects can be operational by 2017 if the requisite funding is secured.

Land use strategies which support the development and performance of an effective and sustainable transport system are focused around the major IRPTN corridors and include the following:

- Protecting existing employment opportunities within these corridor areas.
- Maintaining the quality of high value investment, office, retail, residential and tourist areas within the corridors.
- Discouraging the development of major employment opportunities outside the corridor areas- at least in the short term until the corridor investment has gained momentum.
- Stimulating higher employment and residential densities within these corridors in particular, as well as the promotion of residential densification within the core urban area in general.
- Renewing areas around major stations and modal interchanges as high density residential, office and retail uses.

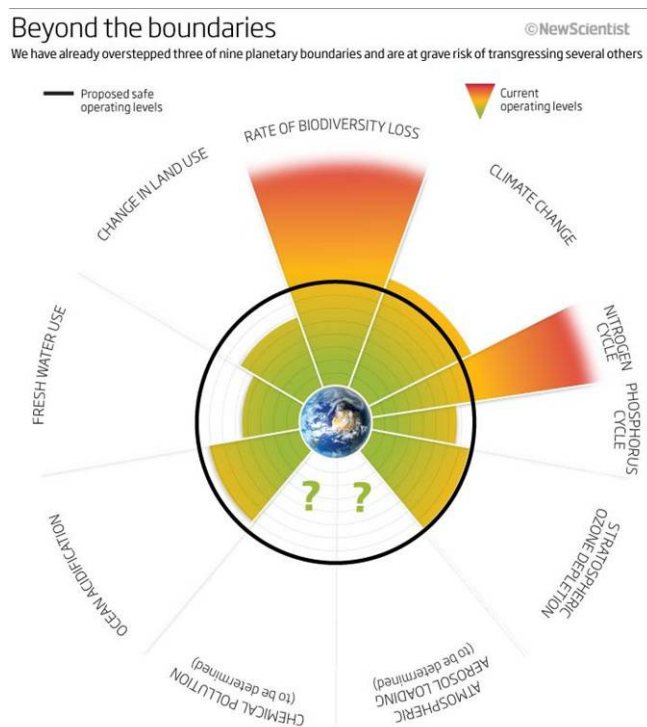
C2.7 Sustainable Development

Nationally and internationally, critical new insights are emerging that must shape and direct the protection and development of Durban's natural assets. These emerging ideas all point to the need for a significant break from current practice, whereby environmental assets are seen as inputs or raw materials in the socio-economic development cycle, to a 'business unusual' approach, wherein natural ecosystems are regarded as the foundation and key structuring element of human well-being and economic development. Unless this transition is achieved, recent developmental gains will be irreparably eroded by environmental decline and collapse. It is important to note that while the perspective offered here reflects only on the state of the natural ecosystems in the city, it is in all likelihood, indicative of the condition of broader natural resource base in Durban (and beyond).

The new big ideas

A significant development at the global level has been the identification and quantification of planetary boundaries. These boundaries define the "safe operating space for humanity with respect to the functioning of the Earth System"⁶⁶. This safe

operating space is the global environmental capacity available to meet humankind's developmental needs. Nine critical boundaries have been identified to date: biodiversity, climate change, nitrogen and phosphorous cycles, land use change, freshwater resources, toxic chemicals, aerosols, ocean acidification and ozone depletion [⁶⁷]



Of great concern is the fact that three of these boundaries have already been exceeded at the global level: i.e. climate change, rate of biodiversity loss and changes to the global nitrogen cycle. Others (such as ocean acidification) are close to being exceeded, and scientific knowledge is still insufficient to determine the location of two of them.

Once these natural boundaries are crossed (that is, humanity leaves the safe operating space) the world becomes an increasingly risky place with an increasing probability of "deleterious or even catastrophic"⁶⁸ consequences. In this world, it is the poor and vulnerable who are the most likely to be negatively impacted because they have the least ability to adapt and protect themselves

from extreme events or increasingly dysfunctional and unproductive natural systems.

⁶⁶ Rockström, J et al. (2009). Planetary boundaries: exploring the safe operating space for humanity. Ecology and Society 14(2): 32.

⁶⁷ <http://www.newscientist.com/special/ocean-to-ozone-earths-nine-life-support-systems>

⁶⁸ Rockström, J et al. (2009) Ibid pg 1

The National Strategy for Sustainable Development approved by the South African Cabinet on 23 November 2011 mirrors the idea that natural systems provide the framework for sustainable socio-economic development.

The National Strategy recognizes that:

- Natural resources must be used sustainably.
- Socio-economic systems are embedded in and are dependent on ecosystems.
- Basic human needs must be met to ensure that the resources that are necessary for long-term survival are not destroyed for short-term gain.

The acknowledgement that socio-economic systems are dependent on ecological systems [69] is a critical departure from the 'business as usual' development paradigm in South Africa.

Local direction

Ensuring the adequate protection of bio-infrastructure (and hence protecting the associated ecosystem services) will only be possible if Ethekwini Municipality and other stakeholders transform the manner in which ecosystem conservation is viewed and protect D'MOSS (especially what remains of Critically Endangered⁷⁰ and Endangered Ecosystems) and, where possible, recreates habitat.

This move forward into an ecologically 'safe operating space' will require that all stakeholders in Durban:

Manage the use of all natural resources to ensure their sustainability;

Protect and restore scarce and degraded natural resources;

Avoid the irreversible loss and de-gradation of biodiversity (marine, terrestrial and aquatic ecosystems).

This proposed investment in bio-infrastructure is far more cost-effective than the construction of traditional infrastructure. Research in Cape Town has indicated that "for every R1 spent by the municipality in 2008-9 approximately R7.30 of value added was generated in the City economy. For every R1 of expenditure by the municipality on the environment almost R8.30 of ecosystems goods and services were generated. This is a conservative estimate and the ratio can be as high as R13.50 for every R1 when a higher value scenario of R6 billion per annum is used. This means that the leverage of municipal expenditure on the environmental sector is considerably higher, i.e. between 1.2 and 2 times, than that of municipal expenditure on the City economy. Using overall municipal expenditure as a baseline, this in itself is a justification for higher environmental expenditure."⁷¹

Backlog eradication

The most urgent need is to protect and manage the city's valuable bio-infrastructure. There are, however, significant backlogs in this regard. Only a small proportion of the open space system (D'MOSS) is protected and managed.

KEY MESSAGE: Planetary boundaries (linked to natural thresholds) must provide the overarching framework for human development in the 21st Century if sustainability, and a safe and secure environment in which to meet basic human needs, is the goal. This represents a 'prevention' rather than 'cure' strategy.

69 Source: NSSD1

70 Critically Endangered - facing an extremely high risk of extinction in the wild. Endangered - facing a very high risk of extinction in the wild.

71 De Wit, M., Van Zyl, H., Crookes, D., Blignaut, J., Jayiya, T., Goiset, V. & Mahumani, B. 2009. "Investing in Natural assets. A Business Case for the Environment in the City of Cape Town". Cape Town.

Delivery and funding needs

Various sectors within the Municipality are involved in the protection and management of the city's bio- infrastructure. As yet there is, however, no one authoritative database recording who is active, what resources are being utilized and the impact of the actions undertaken. For the purpose of illustration, the costs and extent of the expanded public works Programs of Environmental Planning and Climate Protection Department (EPCPD) are provided:

Current approximate cost of clearing high infestations of Invasive Alien Plants: ± R 8,500 - ha - annum
 Working for Ecosystems Program (WFEP): 750 ha (R 6 375 000 per annum)
 Working on Fire Program (WOFP): 500 ha (R4 250 000 per annum)
 Community Reforestation Program (CRP): 800 ha (R6 800 000 per annum)
 Total: 2050 ha (R17 425 000 per annum)

EPCPD is looking to acquire an additional 300+ hectares during the next 5 years (to be managed by the WOFP) and the WFEP and CRP combined will likely extend work into at least an additional 1000 ha. As such, EPCPD are looking to secure budget to manage at least 3000 ha-annum within the next 5 years. This translates into an approximate budget of R42 million per annum (assuming 10% inflation per annum). Land acquisition is also used in selected instances to protect bio-infrastructure. Since 2002, EPCPD has received approximately R 2 million annually for land acquisition. Since the inception of the project in 2002, a total of ±270 hectares have been acquired, based on a prioritisation framework and this represents ±12% of the protected areas in the municipal area. During this time, the budget allocation has not changed significantly, with the result that current acquisition targets are not being met, and only about 11% of D'MOSS enjoys some form of protection.

Need for innovative funding approaches

In order to effectively and sustainably manage the city's bio-infrastructure there is a need to develop and localize innovative financial models such as the Payment for Ecosystem Services (PES) approach used by globally leading cities and countries such as New York and Costa Rica. There is also an urgent need to remove the perverse incentives in current financing systems, such as the penalties placed on owners of vacant land by the current property rating system - which instead of encouraging private land owners to protect and manage bio-infrastructure, encourages development in entirely inappropriate areas.

An urgent need to plan for an era of environmental uncertainty

[72]

Over and above the challenges outlined in respect of the natural resource base, it is also important to consider the impact of global environmental change on Durban. One of the key drivers in this regard is climate change. Of particular concern to Africa and African cities is the cost of climate change adaptation. Ninety per cent of the world's urban population growth is currently taking place in low- and middle-income countries, putting increasingly large numbers of people and ecosystems at risk, and effectively 'urbanizing' the poverty, climate change and biodiversity challenge. This is of serious concern in Africa, a continent that has one of the highest rates of urban land expansion globally. The scale of the adaptation problem faced by cities like Durban is outlined in recent studies published by the World Bank, which estimate the cost of climate change adaptation at US\$ 70–100 billion per annum, with 80 per cent of these costs likely to be borne by cities in the Global South. Given that urban economies, infrastructure and lives (particularly those of the most vulnerable) in the Global South are likely to experience higher and earlier risk and damage than those in the Global North, southern cities require a dramatic break from the status quo in terms of infrastructural development and management. A key part of this will be prioritising ecosystem based adaptation (EBA). Being less interventionist, EBA is more cost-effective than other adaptation approaches when assessed across a range of social, ecological, and economic criteria. This again highlights that a risk-averse approach to local level development requires effective protection and management of bio-infrastructure.

72 Roberts, D., Boon, R., Diederichs, N., Douwes, E., Govender, N., McInnes, A., McLean, C. O'Donoghue, S., and M. Spires. Exploring ecosystem-based climate change adaptation in Durban, South Africa: 'learning-by-doing' at the local government coal face. *Environment and Urbanization* 24 (1): 167-195.

C3 An Overview of Area-Based Management initiatives including Catalytic Projects

Summary

Ethekwini has the following catalytic projects:

SIP 2 - Port Redevelopment, Bayhead Dig-out, Old Airport Dig-out, Freight and Back of Port
Aerotropolis
IRPTN Phase 1 – Sectors C1, C3 and Rail and BRT stations on these routes
Cornubia

Timeframes

SIP 2	2050
Aerotropolis	2030
IRPTN Phase 1	2017
Cornubia Residential	2015
Cornubia Industrial	2025

SIP 2

The nationally driven Strategic Integrated Projects have significant impact on Ethekwini .

The 2050 Vision for the Durban-Gauteng Freight Corridor, covers the Durban Dig-Out Port, Port and Rail Expansions and Cato Ridge while Dube Trade Port and Cornubia are detailed elsewhere.

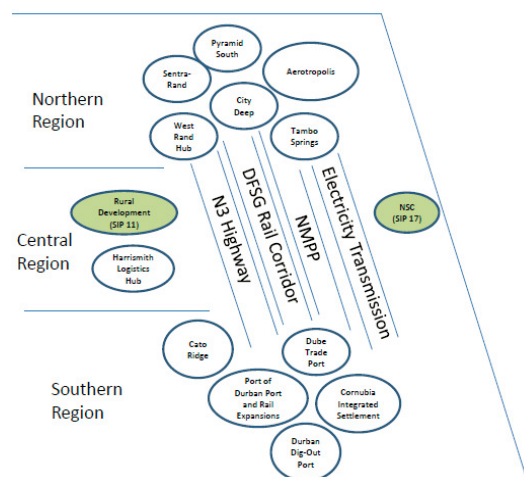
Durban-Gauteng Freight Corridor and its implications for Ethekwini

The Durban to Gauteng freight corridor forms the backbone of South Africa's freight network and is vital in facilitating economic growth.

The main components of the bulk freight corridor consist of the Port of Durban, well established road, rail and pipeline links to Gauteng, and inland freight terminals to service the broader Gauteng area and countries to the north of our border. The Bay of Natal is a regionally significant estuary and home to Africa's busiest port, handling a wide range of high value cargoes. It plays a critical role in servicing the import and export needs not only of Durban and its extensive KZN hinterland, but also of Gauteng and the Southern African region. Two thirds of South Africa's containers move through Durban, as well as a majority of liquid fuel and automotive cargoes. In addition, Durban handles significant break bulk, dry bulk and chemical cargoes, and provides facilities for cruise liners, the SA Navy, and for fishing, service vessels and recreational craft.

Durban is seen as the premier gateway port in the South African ports system, with the lowest logistics costs in serving the economic heartland of the country. Durban handles high-value cargoes in a complementary relationship with the Port of Richards Bay, which focuses on bulk exports of minerals. Together the ports service the maritime needs of South Africa's eastern seaboard.

As the South African economy grows, the capacity of the port needs to be increased to cater for growing freight volumes. Over the past ten years, the growth in container traffic through Durban has been three times the national GDP growth rate. There is already pressure on the port, the roads, and in back of port areas, despite recent expansion projects. At an 8% annual container growth forecast the existing transportation infrastructure will reach its limits in 2019. Unless significant expansion takes place, South African economic growth will be constrained, and freight will be forced to relocate to more distant ports, thus increasing already high transport logistics costs. This would further compromise the global competitiveness of the South African economy. The development of the Durban-Gauteng freight corridor, including the expansion of the port, with improved inland transport connections and increased space for back-of-port activities, will



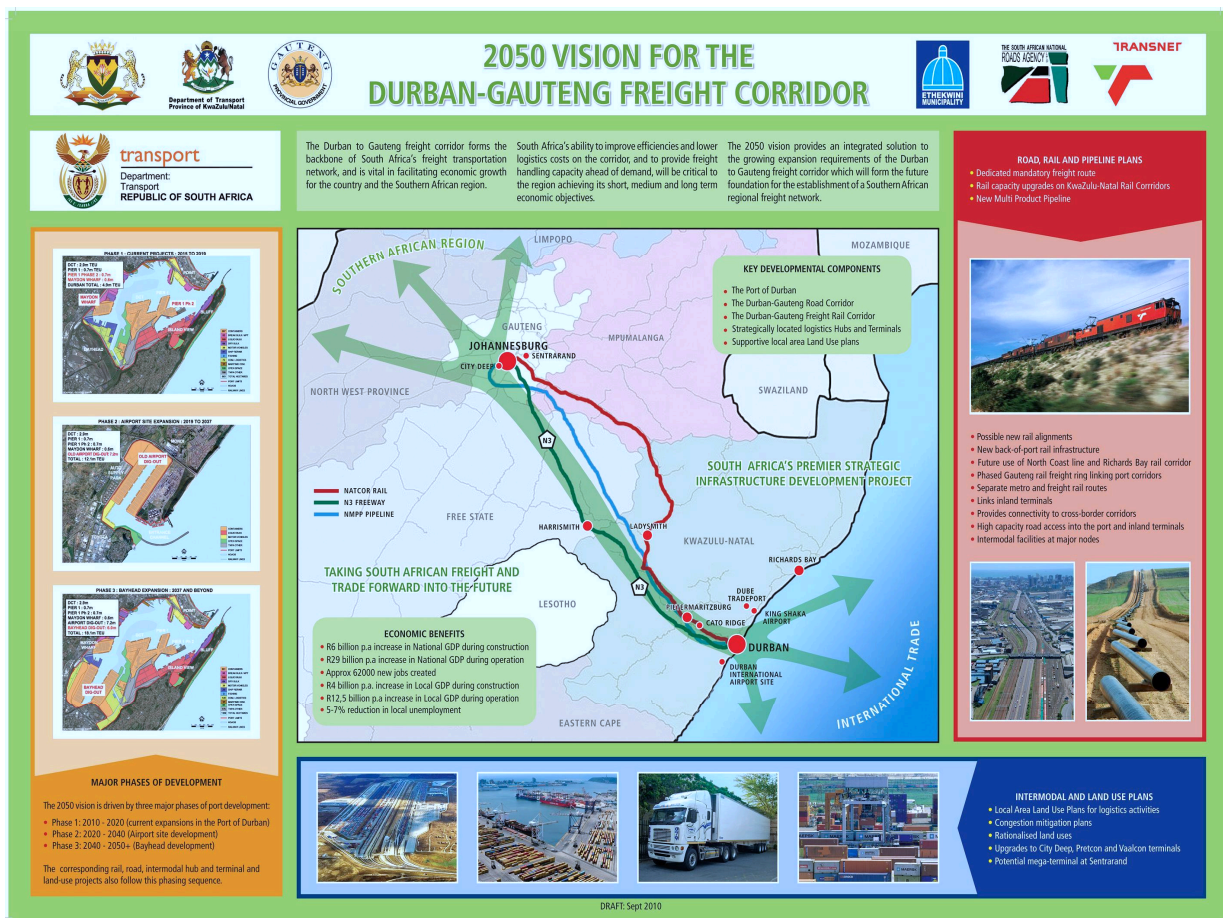
reduce the cost of doing business and improve productivity, which will create employment and generate wealth locally, regionally and nationally.

The '2050 vision' provides a long term solution to the growing expansion requirements of the Durban to Gauteng freight corridor with a focus on the needs of the greater Durban freight transportation infrastructure.

The 2050 vision is a framework for the long term development of the Durban to Gauteng freight corridor, which enhances Durban's position as South Africa's premier port city, providing for the maritime transportation needs of the greater Southern African economy. It describes a program of infrastructural expansions, land-use plans and inland transport connections needed to ensure that the corridor's capacity to handle freight is provided ahead of the growing demands of the local, regional and national hinterlands.

The vision covers port, rail, road and land-use plans, and focuses on national and local economic growth, social upliftment for effected communities, and environmental sustainability. It considers three major phases of expansion, with associated port, land-use and transportation requirements.

As containerised cargoes are the most important freight type handled in Durban, the 2050 vision's phases are defined by a sequence of container expansion projects.



- The first phase covers short-term developments within the existing Port of Durban.
- The second phase includes the new dig-out port on the old airport site.
- This is then followed by the third phase, with the construction of a new dig-out basin on the site of the Bayhead rail yard.

The 2050 vision has been developed over a number of years through an intensive joint planning engagement between Transnet, the Ethekwini Municipality, and a wide range of stakeholders.

The 2050 vision will provide huge socio-economic opportunities for the country. Investment in infrastructure capacity over the three phases will exceed a quarter of a trillion Rand, making this one of the most significant projects in the history of South African freight transportation.

The likely contributions to the local region and national economies are expected to be significant during both the construction and operational phases of this 2050 vision. In terms of employment opportunities the anticipated number of job created are 62 000 temporary jobs during construction and 54 000 permanent long term jobs locally. This will translate to a total of 76 000 permanent jobs in port related industries throughout the Province. This will make a significant contribution to the Government's plan to halve unemployment rates.

Similarly the project will stimulate local and regional economic growth from a KZN perspective. A growth of R4 billion per year in KZN GDP during the construction phase. During the operational phase the growth is significantly larger and estimated GDP at local level is R12,5 billion per year, the impact in the balance of the province at R980 million per year and the overall growth in KZN GDP of R12, 2 billion per year.

Phases of the 2050 vision

The vision should be seen as an integrated long term plan, and that while the execution of the first phase projects is undertaken, work must simultaneously proceed on the detailed planning, land acquisitions and environmental approvals of the second and third phases.

It must also be noted that while the 2050 vision focuses on container expansion projects, cognisance has been taken of other freight expansion projects needed to accommodate growth in break bulk, dry and liquid bulk, and automotive volumes, and on other non-freight projects. Similarly, provision has been made for port and non port related growth on the major transportation corridors, as well as for expansion of passenger numbers on both road and rail, and for competing land-uses.

The timing of the phases is based on the 8% growth scenario, and is indicative rather than precise.

Phase 1 projects

PORT

The first port expansion project included in phase one is the conversion of a portion of Salisbury Island into an extension of the Pier 1 container terminal.

The second port project is the conversion of a portion of Maydon Wharf into a new container terminal for smaller vessels. This will form part of a broader Maydon Wharf redevelopment project.

These two projects will increase the container capacity of the Port of Durban from 3.6 to 4.9m TEU, and are considered to represent the limit to container development opportunities in the port prior to the development of the first mega-terminal.

Other port projects will include ongoing upgrades to the Island View area to increase liquid bulk capacity, and to provide a coastal terminal for the new multi-product pipeline (NMPP) to Gauteng.

The Margaret Mncadi Avenue (Victoria Embankment) waterfront development and the relocation of cruise liner facilities to A-B berths will improve the interface of the port and city, and allow recreational and tourist activities access to the waters edge.

RAIL

The port expansion projects will be served by the existing rail network infrastructure. The Bayhead and Kings Rest arrival and departure yards will be used, but Maydon Wharf will require a new rail terminal. Salisbury Island will share the Pier 1 rail terminal.

The Natal rail corridor (Natcor) will have adequate capacity to provide rail connectivity to Gauteng for the phase one expansion, with improvements to efficiencies and by utilizing standard 50 wagon equivalent train configurations.

ROAD

The Phase 1 expansion of the port requires the development of the road and freight infrastructure to establish a base for an efficient road based logistic corridor to other centres in Southern Africa. The infrastructure needs associated with the port expansion include extensive upgrading of the existing road corridors with upgrades to three existing interchanges along the M7 - N3 corridor as well as additional lane and pavement strengthening requirements on these corridors. Associated with this is the need for establishing a 24 hour freight monitoring system including weight, hazchem and vehicle mass controls along with the necessary expansion to the existing Traffic Control Centre to facilitate this. Part of the freight management requirements will be the establishment of truck holding areas at key

gateways into the city. Further road projects in this phase will include heavy vehicle access management on Tara Road, Quality Street and Duranta Road, and western and eastern extensions of Grimsby Road to create linkages with both the N2 and M4 freeways in the south. Capacity upgrades to Solomon Mahlangu and to the Umbilo arterial are also required to accommodate the increased traffic movements to and from the Maydon Wharf area including route management control systems.

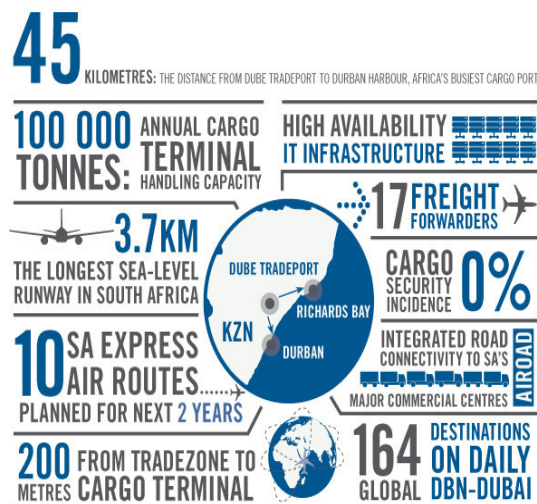
A new dedicated freight route on an east-west alignment to and from the Port of Durban to the N2 freeway must also be provided, as well as linking to an inter-modal logistics transfer point in the vicinity of Cato Ridge/Camperdown. For Phase 1, the section of this east-west route which links Bayhead Road to the N2 must be complete and is fundamental to the sustainability of this additional port capacity.

ENVIRONMENTAL

The scale and complexity of the proposals in this long term vision will necessitate a broad and comprehensive environmental strategy to ensure that sustainability issues are addressed fully and holistically.

LAND USE

Both port expansions convert existing port land into container handling facilities. This is achieved through consolidation of the SA Navy base on Salisbury Island, and the rationalisation of multi-purpose and break bulk operations in Maydon Wharf. A local area plan is being finalised for the back-of-port areas between Bayhead and the Airport site. This will provide a framework for better utilization of the limited space available, address congested areas with incompatible land uses, and provide new growth opportunities for logistics and transportation activities on the new east-west dedicated freight route. The development of intermodal hubs in Cato Ridge/Camperdown and at Dube Tradeport will provide more space for port-related industries and service providers, and facilitate improved connectivity. A local area plan for Cato Ridge and a development framework for the Dube intermodal hubs are in progress.



Aerotropolis

The Aerotropolis comprises:

Passenger Terminals

AgriZone - Greenhouse, a nursery, tissue lab, research and growing areas.

Cargo Terminal

Dube City - a trade environment directly linked to the airport.

Dube iConnect - A provider of telecommunications and IT to the community of users within and outside of the Dube TradePort.

The total size of the Passenger Terminals flooring is 103,000m². The initial capacity allows for 7.5 million

passengers a year with opportunities for significant expansion, should it be required (figures are projected at 45 million passengers by 2060). The airport currently handles 5 M passengers p.a. ^[73]

The Cargo terminal has the capacity to handle 100,000 cargo tonnes p.a. ^[74]

KwaZulu-Natal is also poised for a multi-billion Rand injection in foreign direct investments as a consequence of a landmark agreement between Dube TradePort Corporation and The Action Group, a highly diversified India-based business conglomerate. This was announced during the fifth BRICS Summit, held in Durban during March 2013, and paves the way for the development of a Mega Industrial Integrated Township, providing a critical business gateway for the benefit of specifically, though not exclusively, investors from BRICS countries. ^[75]

73 <http://www.acsa.co.za/home.asp?pid=8048> accessed 2104-02-02

74 <http://cargoterminal.dubetradeport.co.za>, accessed 2104-02-02

75 2012-13 Annual Report Dube Tradeport

In a new and critically important development, KZN Economic Development and Tourism Department, together with the Department of Trade and Industry, has proposed that Dube TradePort be declared a Special Economic Zone, or SEZ, for the benefit of trade and industry, a move which would greatly boost trade expansion, economic development and export diversification at Dube TradePort.^[76]

IRPTN Phase 1

See “C2.6 Transportation”.

Cornubia

Cornubia North & South are two mega-projects on greenfields sites in the North Arm of the Integration Zone. They propose to deliver:

160,000 residential units aimed at the subsidised and gap markets
2.3 million m² of commercial floor space

Together with the Aerotropolis, these projects will significantly extend the city to the north. Cornubia North and South will require R 30 Bn to R 50 Bn in public and private investments over the next 10 to 20 years.

There is a formal co-operation agreement between the municipality and the Tongaat Hullett Group (THG), wherein the parties agree to co-operate to facilitate the development of the Cornubia area. The planning costs are shared and there is engagement around cost sharing of bulk infrastructure and the phasing of this infrastructure to allow a combination of low income housing and commercial and industrial areas to be developed at the same time.

Cornubia South is strategically located, situated along the N3 and close to Gateway and near the Dube Trade Port. But because it is a greenfields site, there are major bulk infrastructure costs that need to be met, for roads in particular. Various cost sharing methodologies have been developed which take into account:

- Who owns the road and
- What proportion of traffic is local, provincial or national

Generally speaking THD, Sanral and Ethekwini have been sharing costs. Apart from the N2/M41 interchange where the Provincial Department of Transport was a significant contributor, this department has been unwilling in all other instances to make reasonable contributions even on roads that they own. Whilst the traffic generation models have indicated that the provincial contribution to costs should be in the order of 40-50%, the provincial department has proposed a cost sharing model which could see contributions in the order of 5%. The result has been delays in the development of Cornubia South as well as placing strain on the co-operation agreement between Ethekwini and THD since these two parties are then forced to arm wrestle over who shoulders the greatest portion of bulk costs that ought to have been covered by the provincial department.

Ultimate Development of Cornubia South will be achieved over 20 years but the human settlement component is likely to be complete in 7-10 years. This development has a total of 25 700 units of which approximately 11,500 are low cost units and the balance are gap housing (approx 7,000 units) and middle income units (approx 6,500 units).^[77] Phase 1 A is complete and consists of approximately 480 low cost units (with 155 already occupied) and in respect of the industrial land, rapid take-up has been experienced with over 70% of the 80 hectares already sold. Phase 1 B is approximately 2300 units and is currently underway with 3 contractors on site dealing with earthworks and engineering services. Top structure construction is expected to begin in August 2014. Cornubia South has gone through the legislative submission process and an environmental approval is expected by mid 2014. Cornubia North is the land between Cornubia South and the Dube Trade Port and is planned as an extension of Cornubia South. A Framework Plan^[78] has been formulated and is currently in the process of discussion internally and with provincial departments.

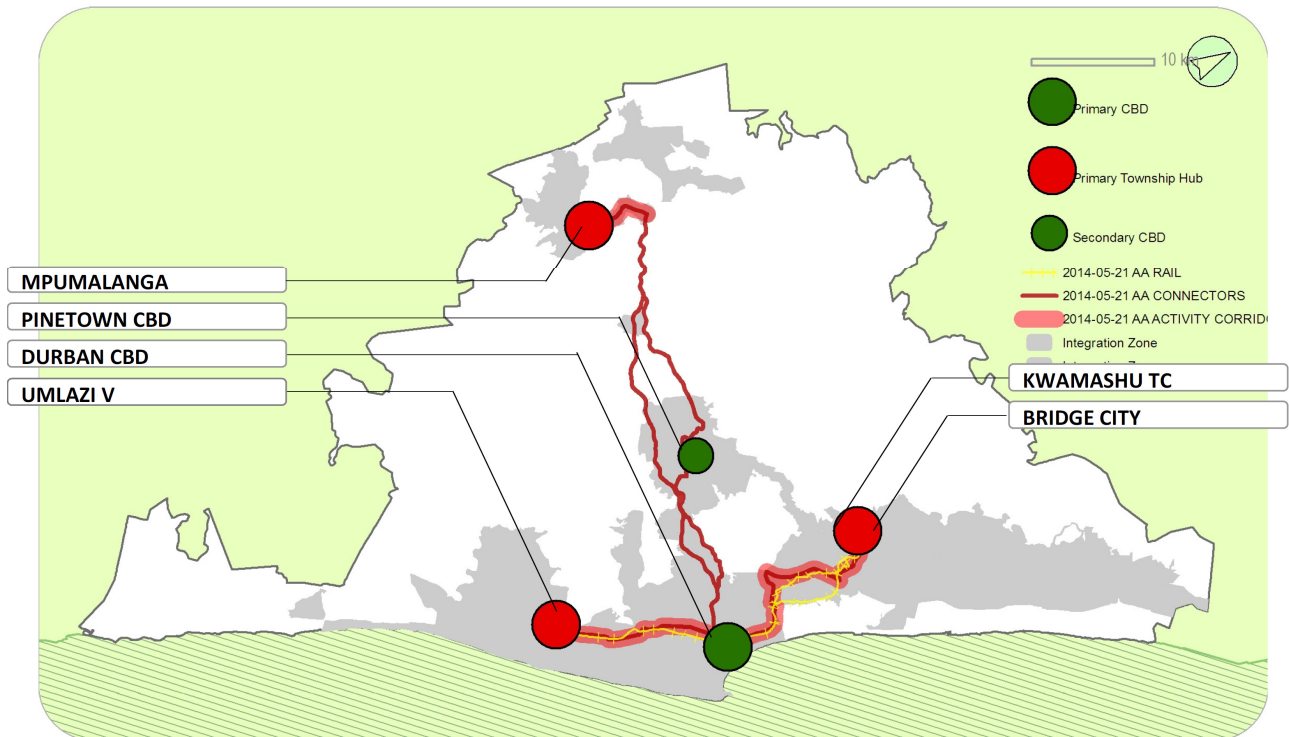
⁷⁶ Ibid

⁷⁷ Cornubia [South] Framework Presentation, Tongaat Hullett and Ethekwini, December 2010

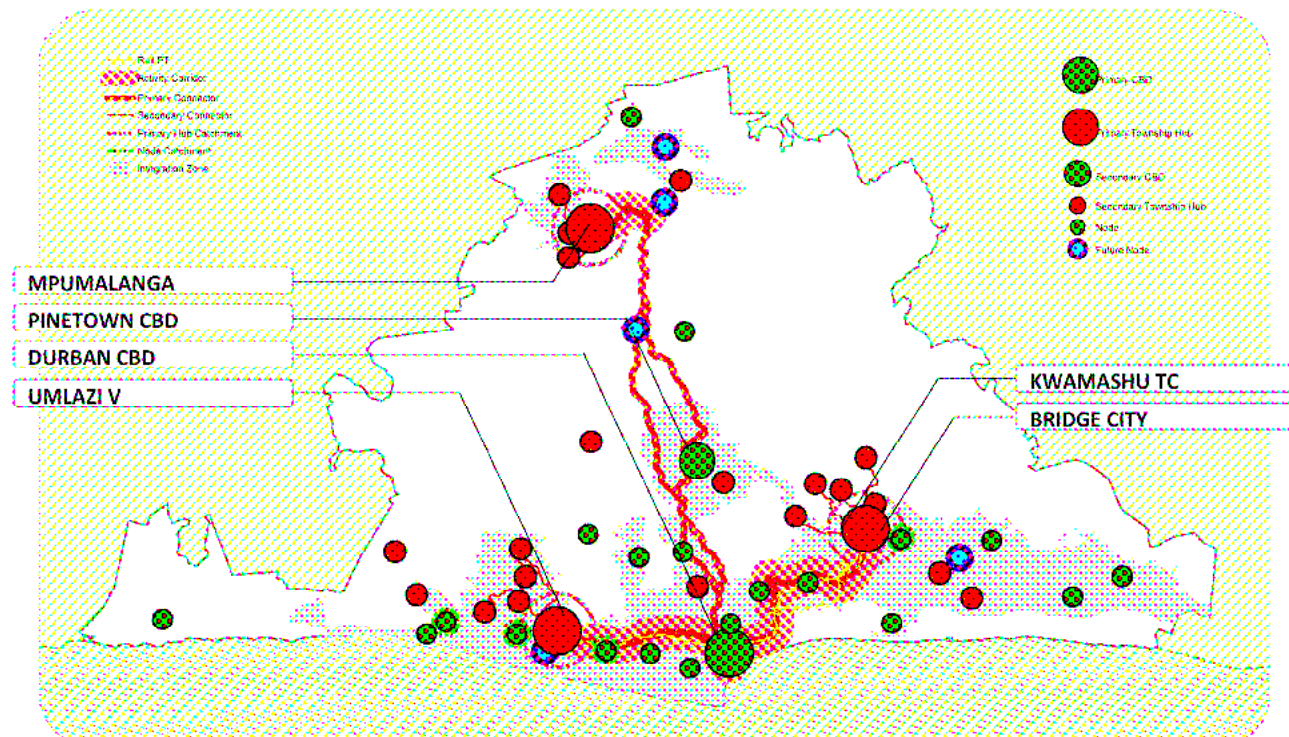
⁷⁸ Cornubia North Framework Presentation, Tongaat Hullett and Ethekwini, November 2013

C4 Identification of Urban Network, Integration Zones and Hubs

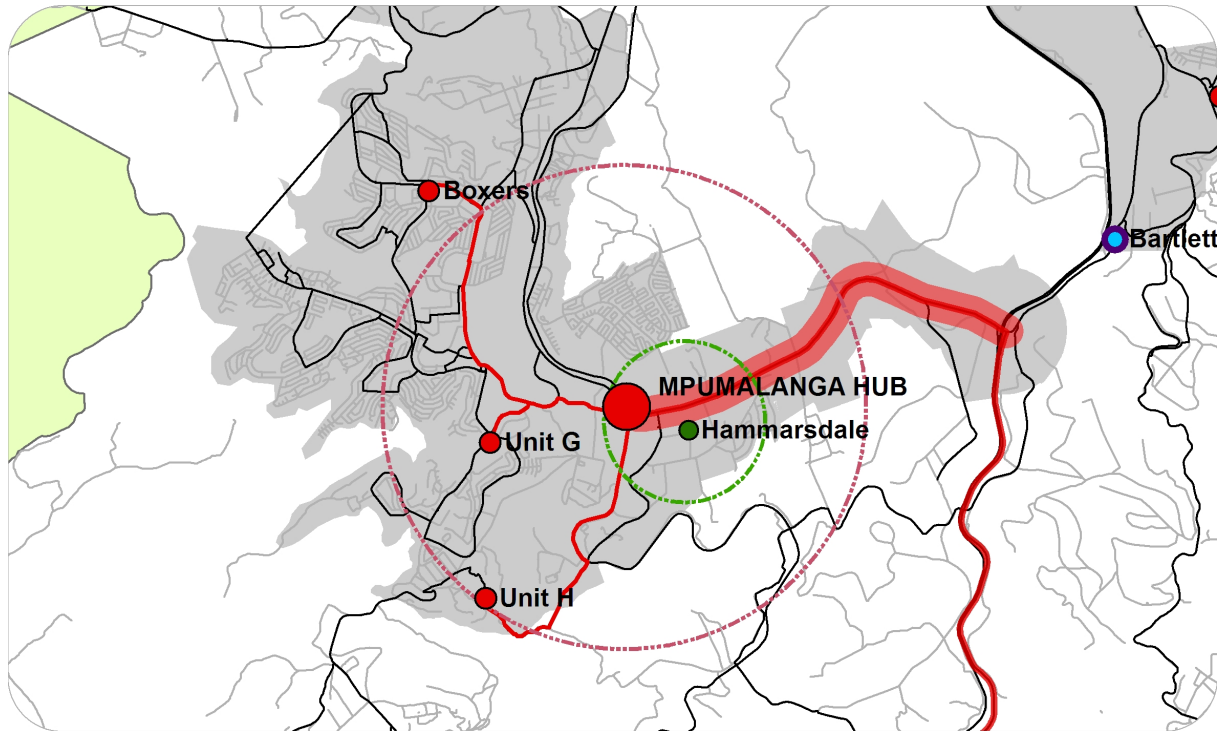
Primary Urban Network



Primary & Secondary Urban Network



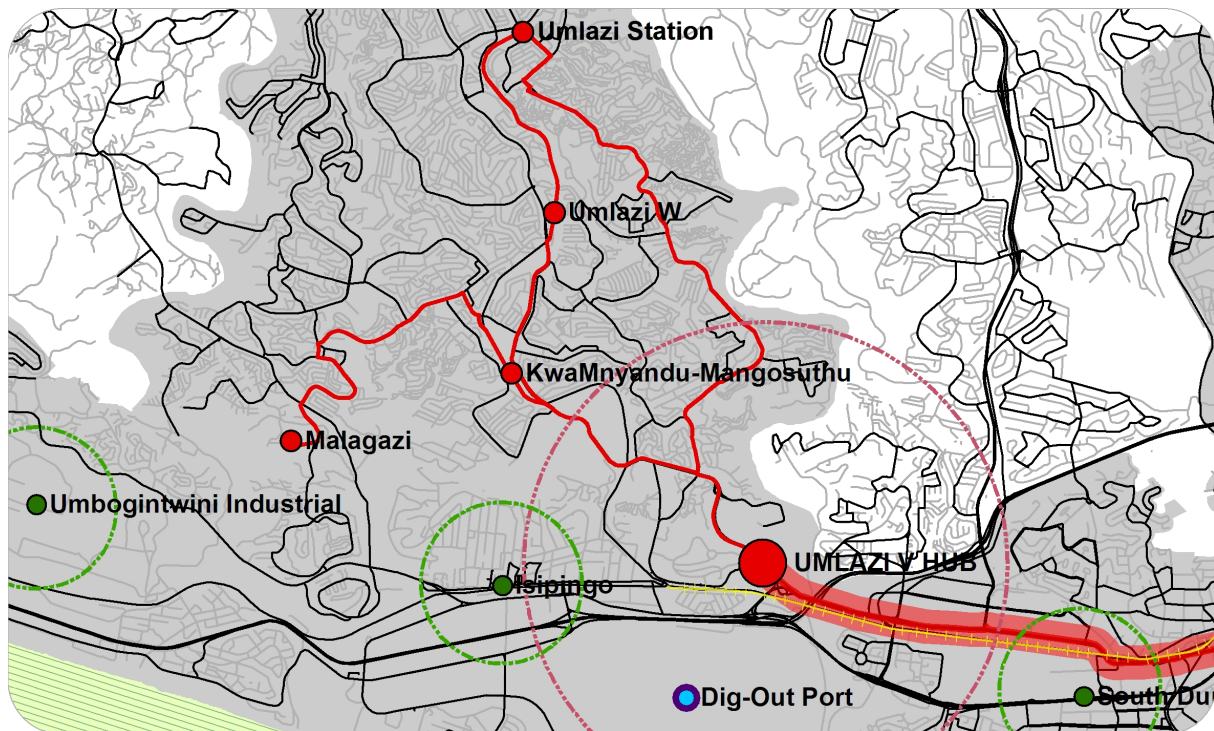
Mpumalanga Sub-Metropolitan Network



Network Elements

CBD	Durban
EXISTING NODES	Pinetown (Secondary CBD) Hammarisdale Cato Ridge Shongweni (Proposed) Hillcrest-Kloof
ACTIVITY CORRIDOR INFILL	MR 385 Hammarisdale to Mpumalanga TC
PRIMARY HUB	Mpumalanga New Town Centre
PT LINK - PRIMARY HUB TO CBD	N3 M13 The N3 is as an express PT route between Mpumalanga / Hammarisdale to Durban CBD. The M13 works as a high friction route to Pinetown and Durban CBD. The two routes complement each other, work as a double-strand corridor, and form one integral system.
SECONDARY HUBS	Inchanga Boxers's Unit G Unit H
PT LINK - PRIMARY HUB TO SECONDARY HUB	MR385 to Inchanga Kunene Road then onto Shezi Road to Boxer's Shezi Road to Unit G Kunene Road then onto Shezi Road and then Sibisi Road to Unit H

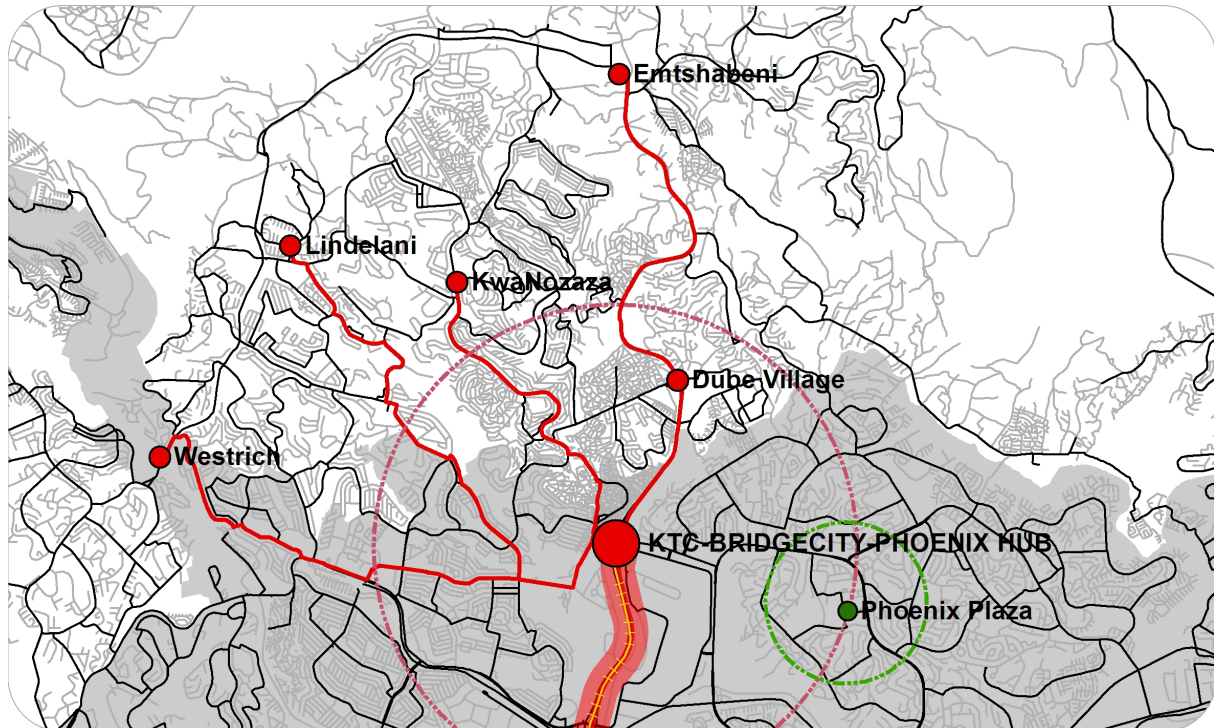
Umlazi Sub-Metropolitan Network



Network Elements

CBD	Durban
EXISTING NODES	Pinetown (Secondary CBD) South Basin Industrial (Prospecton & Mobeni) Dig-Out Port Industrial (Proposed) Chatsworth Town Centre Toti Town Centre Queensburgh Town Centre Umbogintwini Industrial
ACTIVITY CORRIDOR INFILL	South Coast Road to Warwick
PRIMARY HUB	Umlazi V-Node
PT LINK - PRIMARY HUB TO CBD	Rail and R102 to Durban CBD The primary link to Durban CBD is a double-strand corridor comprising C1 Rail and R102. . The two routes complement each other, and form one integral system
SECONDARY HUB	Kwamnyandu Mangosuthu W Node Station Node Philani Valley Malukazi
PT LINK - PRIMARY HUB TO SECONDARY HUB	Rail - Umlazi Station M30, Sibusiso Mdakana Loop Rd to Mangosuthu Kwanyandu, W- Node, and Umlazi Station New Second Access, Spine Rd and M35 Umbumbulu Road to Philani Valley Proposed to Lamontville Malukazi

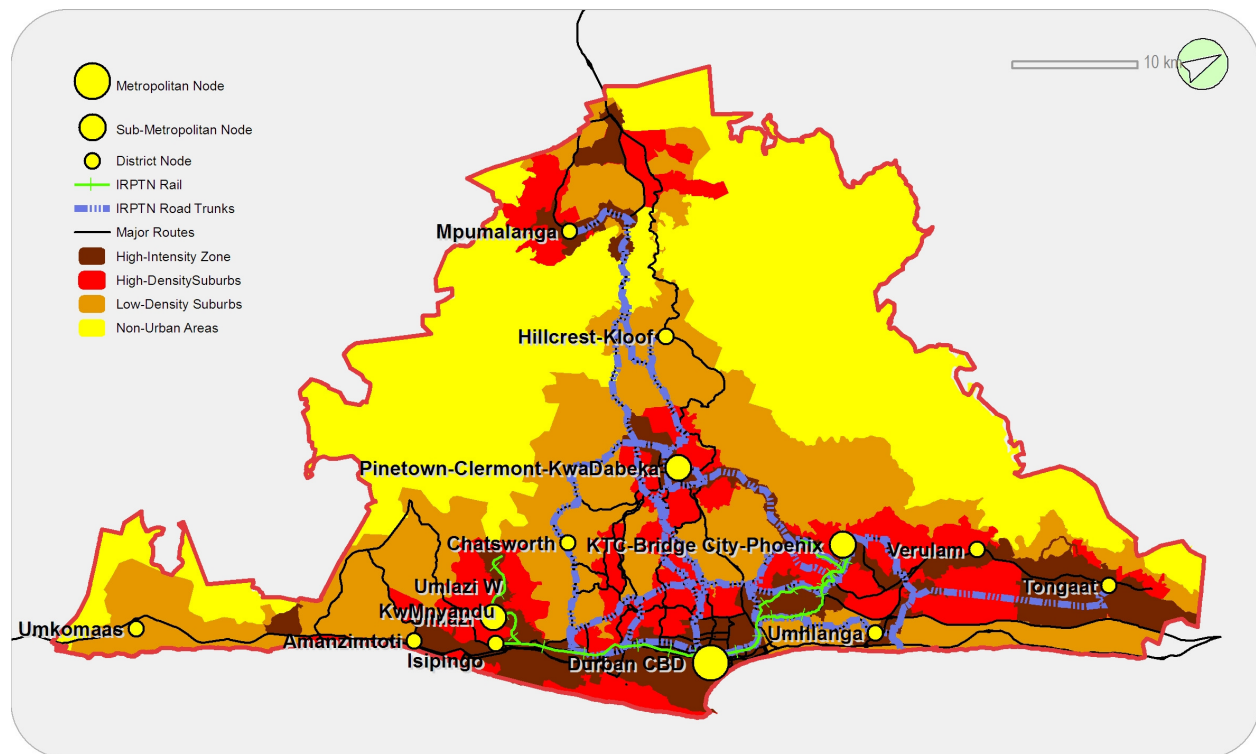
Kwa Mashu Sub-Metropolitan Network



Network Elements

CBD	Durban
EXISTING NODES	Pinetown (Secondary CBD) Umhlanga Mount Edgecombe Phoenix Plaza Phoenix Industrial Verulam Town Centre Tongaat Town Centre Dube Trade Port Cornubia Industrial Riverhorse & Springfield Industrial
ACTIVITY CORRIDOR INFILL	Mandela Road Mbhejane Road R102 and Chris Hani Road to Warwick R102 to Tongaat MR41 to Umhlanga
PRIMARY HUB	Kwamashu Town Centre & Bridge City
PT LINK - PRIMARY HUB TO CBD	ail and R102 Umgeni Chris Hani Inanda Rd (or alternative via Springfield) to Durban CBD The primary link to Durban CBD is a double-strand corridor comprising C1 Rail and R102. . The two routes complement each other, and form one integral system
SECONDARY HUB	Kwanzoza (Proposed) Emtshabeni Lindelani Westrich (Proposed) Dube Village Clermont KwaDabeka
PT LINK - PRIMARY HUB TO SECONDARY HUB	M25 To Dube Village M25 To Emtshabeni P138 To Lindelani Ntuzuma Main Rd To Kwanozaza Ntuzuma Main Rd via KTC To Westrich (Proposed) C9 Umhlanga To Phoenix Industrial C6 - P577 To Emtshabeni Via Kwanozaza

C4.1 Identification of Integration Zones



National Treasury introduced spatial targeting linked to budgeting in late 2013. It uses the concept of an Integration Zone as the foundation for making medium and long-term capital commitments for the purpose of creating an efficient, sustainable and inclusive development in the country's metropolitan municipalities. The spatial focus of the National Treasury's spatial targeting initiative is the identification of a CBD, major Townships, other Townships, and the connections between these three types of spaces or elements, and an Integration Zone. This system is termed the Urban Network.

Ethekwini's response to the Urban Network is to take it on board, and to contextualise it within a broader city Spatial Development Strategy, which has additional types of spaces or elements, and also additional types of connections between the increased diversity of spaces. The response has also been to incorporate and develop the intellectual and institutional capital which was created in the preceding Blue Skies initiative. Another response is to use the opportunity to develop a corporate spatial prioritisation and 20-year implementation program which is rooted in the SDF and the other documents in Ethekwini's package of plans.

Ethekwini approach has resulted in the adjustment and confirmation of its hierarchy of urban centres, in the identification of four main types of spaces, and the identification of the network connecting these elements.

The model used by Ethekwini defines a High-Intensity Zone, High-Density Suburbs, Medium- & Low-Density Suburbs, and Non-Urban Areas. These major elements are connected by a Metropolitan Movement Network, comprising the IRPTN plus other major routes.

The High-Intensity Zone is made up of major economic uses, significant urban centres, the external and internal connections (particularly the IRPTN), and the intense uses along these connections. The High-Intensity Zone contains both existing high-intensity uses, as well as numerous opportunities for intense brownfields or greenfields urban development. 90% of jobs (i.e. almost all jobs) are located in these areas. 11% of the population (i.e. one in every nine persons) lives here, 429 000 people in total. These areas occupy about 10% of the municipal extents. The challenge for these core areas is to maintain the infrastructure and buildings and because they are so well located, to find opportunities to expand, intensify or redevelop properties for economic uses and high density residential.

A key program will be to identify and stimulate take-up of development opportunities, particularly in Cornubia and around the Aerotropolis, and to accelerate the construction and commissioning of the IRPTN. Infrastructure investment, particularly in sewer works and reticulation, as well as the improvement of regional routes northwards will also be required

The High Density Suburbs are residential areas adjoining the High Intensity Zone, which are well connected by public transport and other movement systems to the High-Intensity Zone, have good access to social facilities. Typically they form a belt of approximately 2km wide around the High Intensity Zones. Existing densities are typically in the low and medium range. A big chunk of the population live here – 1.4 million people, about 37% of the population (i.e. almost four out of every ten persons). These well-located dormitory areas take up only 15% of the municipal extents (i.e. one-seventh), and so they have the highest relative population densities (though still too low for efficient and self-sustaining urban

environments). The intention is to maximise densities, which will require vigorous intervention, to upgrade informal settlements into high density schemes, and to promote higher levels of LED to support the new densities.

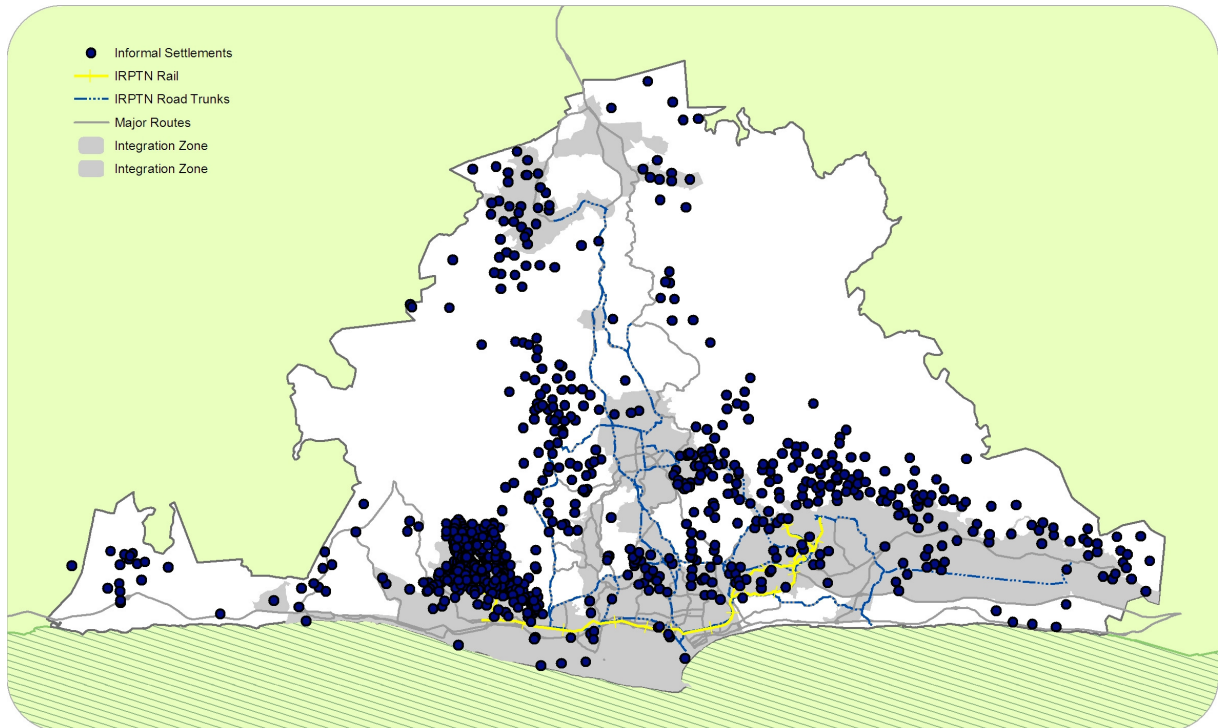
The Medium- & Low-Density Suburbs form another belt beyond the High Density Suburbs. Another big chunk of the population live here - 1.6 million people, about 43% of the population. They live on a third of the municipal extents, at low densities in absolute terms (usually less than 10 dwellings per hectare). The big challenge here is to improve the connectivity of these dormitory suburbs to where the jobs are, by reducing travelling times, lowering transport costs and improving the roads network. The former townships and informal settlements in these areas tend also not to be as well served with social facilities, so a challenge is to improve the quality and effectiveness of existing facilities and in some cases to build new ones. The development intentions are to rectify backlogs in social facilities, to promote LED, to increase densities to a degree, to quickly provide informal settlements with universal access to basic services alongside the slower upgrading program, and to significantly improve the connectivity of these suburbs to the High Intensity Zone.

Beyond the Medium- & Low-Density Suburbs is a belt of Non-Urban Areas, which support traditional lifestyles, agriculture and nature conservation. The non-urban areas are home to 8% of the population (one in every twelve persons) 313 000 people in total, and about 43% (or nearly half) of the municipal extents. The key challenges are to improve social facilities and basic infrastructure (water, electricity, sanitation), connectivity (roads and internet), and to encourage sustainable livelihoods and access to agri-processing and distribution.

It is intended to steer capital budgets to delivering on the diverse development intentions for each of the four spaces. Already there is an emerging spatial and temporal prioritisation within this framework. The development initiatives in the North Urban Development Corridor (including the Aerotropolis), the Dry Port, and the current phase of the IRPTN have been accepted and confirmed as initial priorities within the High-Intensity Zone.

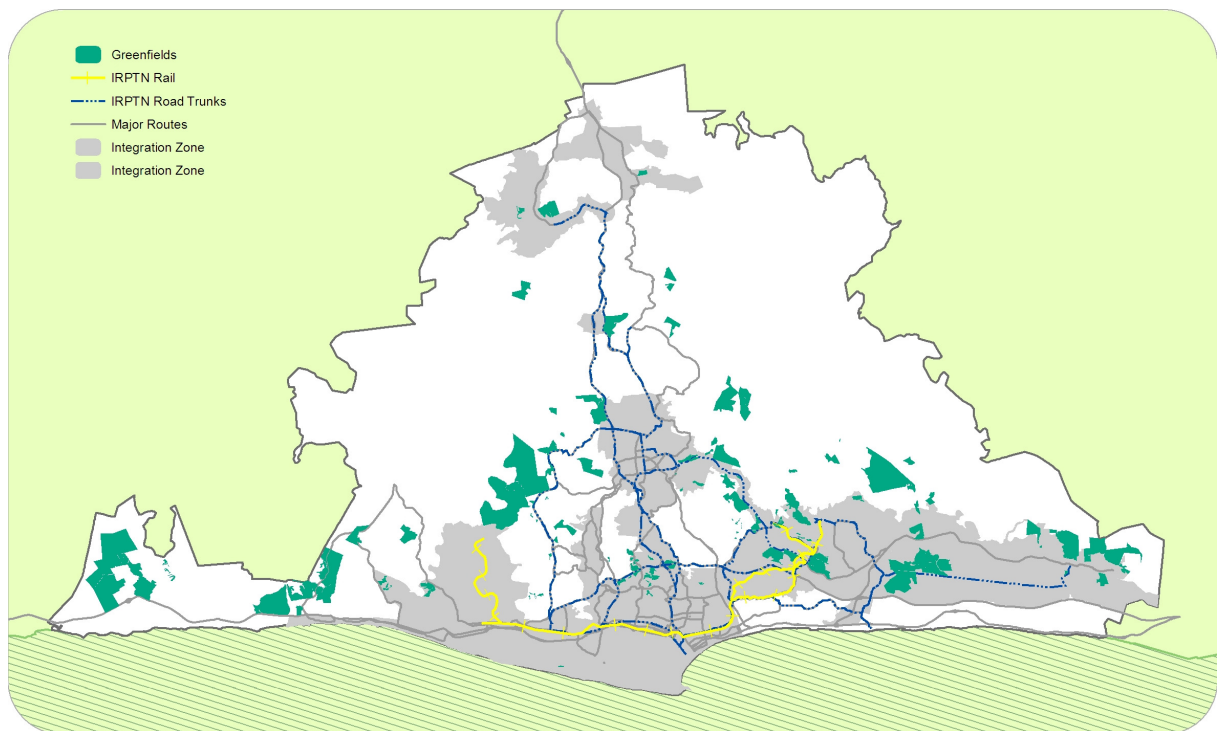
Intervention	High-Intensity Zone	High-Density Suburbs	Medium- & Low-Density Suburbs	Non-Urban Area
Investment Strategy	Deliberate investments, intensive detailed planning, mobilisation of private sector investment, deliberate rezoning for high densities, deliberate crowd in of budgets/ infrastructure upgrades and expansion etc.	.As for High-Intensity Zone	Stabilisation of settlements with services to ensure universal access on affordable standards, maintenance of infrastructure and services, provision of social facilities to the norms and standards agreed etc.	Provision of infrastructure and services, and monitoring of growth
Property Development Intentions	High Floor Area Ratios Extensively Developed No Vacant or Underdeveloped Properties Property Improvements Property Extensions Redevelopments	Moderate Floor Area Ratios Remainder as for High-Intensity Zone	Moderate Floor Area Ratios Improvements Formalisation Regularisation	Formalisation Regularisation
Intended Contributions to Economic Health	Improved City GDP Improved Rates Revenues High Sales of Water and Electricity Job Retention Job Creations	Improved Rates Revenues High Sales of Water and Electricity	Improved Rates Revenues High Sales of Water and Electricity	High Sales of Water and Electricity

Informal Settlements Relative To Integration Zone



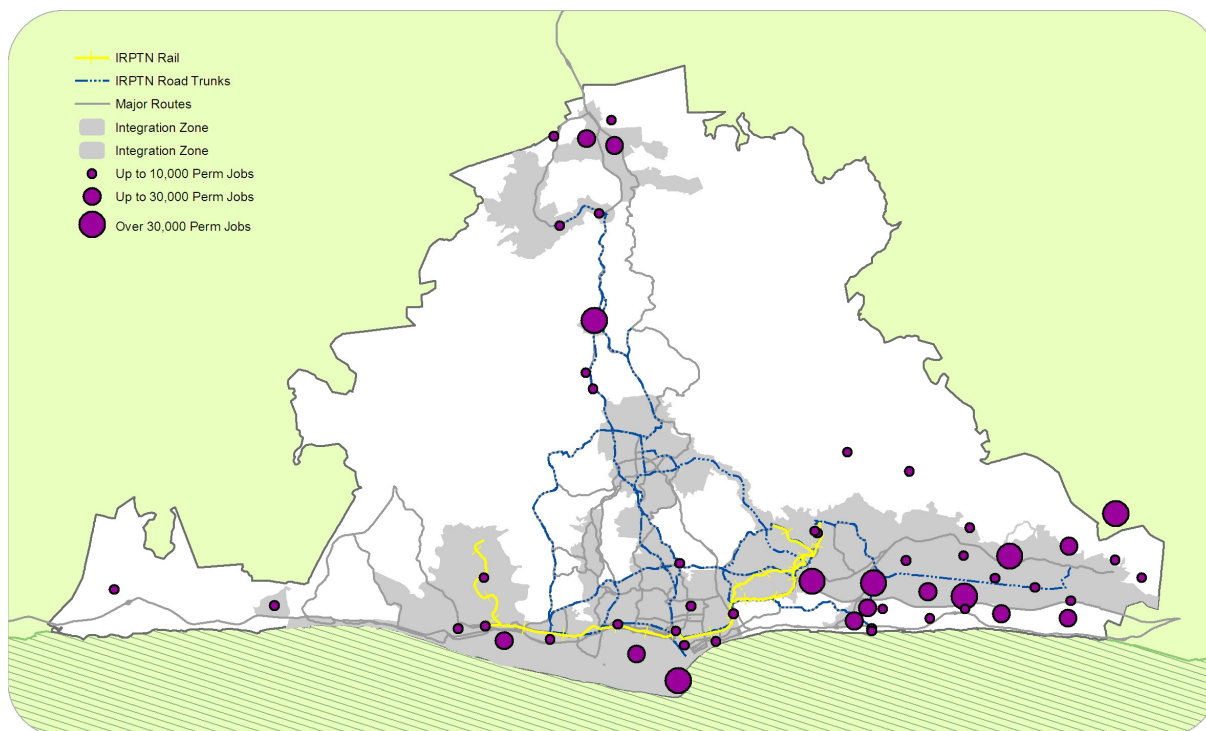
Umlazi, Clermont, Cato Manor, Newlands, Clare Estate and Mpumalanga have almost all of their informal settlements within the Integration Zone. It is both a concern and a reflection of legacy, class issues and urbanisation dynamics that many informal settlements are not located within the Integration Zone,.

Greenfields Housing Relative To Integration Zone



About a third of Greenfields Housing projects fall within the Integration Zone. This reflects the two-decade history of municipal land acquisition policies, the focus of land acquisition subsidies within HSDG on cheap land, and the previous absence of funding instruments for medium and high density housing.

Proposed Economic Projects Relative To Integration Zone



Many of the proposed economic projects fall within the Integration Zone. In the north, slightly less than half of those projects within metro extents currently fall beyond the Integration Zone.

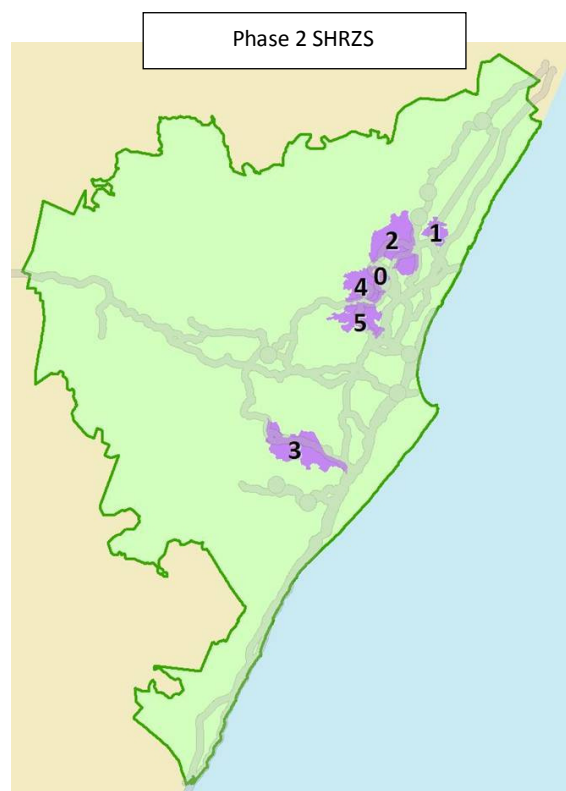
C4.2 Adjustments to Spatial Targeting Instruments

PHDA - Provincial Housing Development Area

Cornubia is a designated PHDA. Confirmation will be obtained internally if there are other PHDAs. Because Cornubia is wholly contained within the Phase 1 Integration one and is also a High-Intensity Zone within the Integration Zone, no adjustment to the spatial definition of PHDA is presently suggested.

SHRZ - Social Housing Restructuring Zone

Ethekwini has numerous SHRZs as shown below. The SHRZs were designated in two Phases several years apart. All fall within both the Integration Zone and within the High-Intensity Zones, with the exception of Chatsworth which does not fall within the Integration Zone, but does fall within the Long term Integration Zone. Before the finalisation of the BEPP, this situation around Chatsworth will be reviewed.



UDZ - Urban Development Zone

The greater part of the Durban CBD has been designated as a UDZ. Because the Durban CBD is wholly contained within the Phase 1 Integration one and is also a High-Intensity Zone within the Integration Zone, no adjustment to the spatial definition of the UDZ is presently suggested.



SEZ - Special Economic Zone

Ethekwini does not presently have an SEZ, although the aerotropolis has been identified locally and nationally as a candidate. If it were to be designated as an SEZ, the SEZ would fall wholly within the High-Intensity Zone.

IDZ - Industrial Development Zone

Ethekwini does not have an IDZ. It appears unlikely that government will support new IDZs, and instead is likely to consider converting existing IDZs to SEZs. Consequently, no IDZ is proposed for Ethekwini.

C4.3 Adjustments to Spatial Development Frameworks and Land Use Management System

Several documents collectively describe the municipality's metropolitan spatial development frameworks:

- The Long Term Development Framework (LTDF), which takes the form of a narrative
- The Spatial Development Framework (SDF), which takes the form of a series of maps.
- The SDF is an annexure to the Integrated Development Plan (IDP), which takes the form of an illustrated narrative.
- The four sub-metropolitan Spatial Development Plans (SDPs), for the Central, North, South and West sub-metropolises, which takes the form of illustrated narratives
- The municipal Land Use Management Scheme (LUMS), which takes the form of plans and accompanying text

Alignment and non-alignment of the Spatial Development Frameworks and the Integration Zone

One of the principles for the definition of the Integration Zone is that its extents should be based on intensifying and prioritising already intense and-or approved economic, mixed, and intense residential land uses as described in the LTDF, SDF, and SDPs.

This principle has been applied, but the LTDF, SDF, and SDPs have not been reviewed for their alignment with the resultant Integration Zone. The assumption that the Integration Zone accurately and comprehensively interprets the other planning instruments has therefore not been tested, nor has the possibility been tested that the Integration Zone, in interpreting the other planning instruments, has added to the intellectual capital of those instruments and that they therefore ought to be updated.

In a process in parallel to this BEPP, the SDF is being formally reviewed, and this presents an opportunity for the Integration Zone to be embedded in the SDF. The SDF review is scheduled to be completed within the next twelve months.

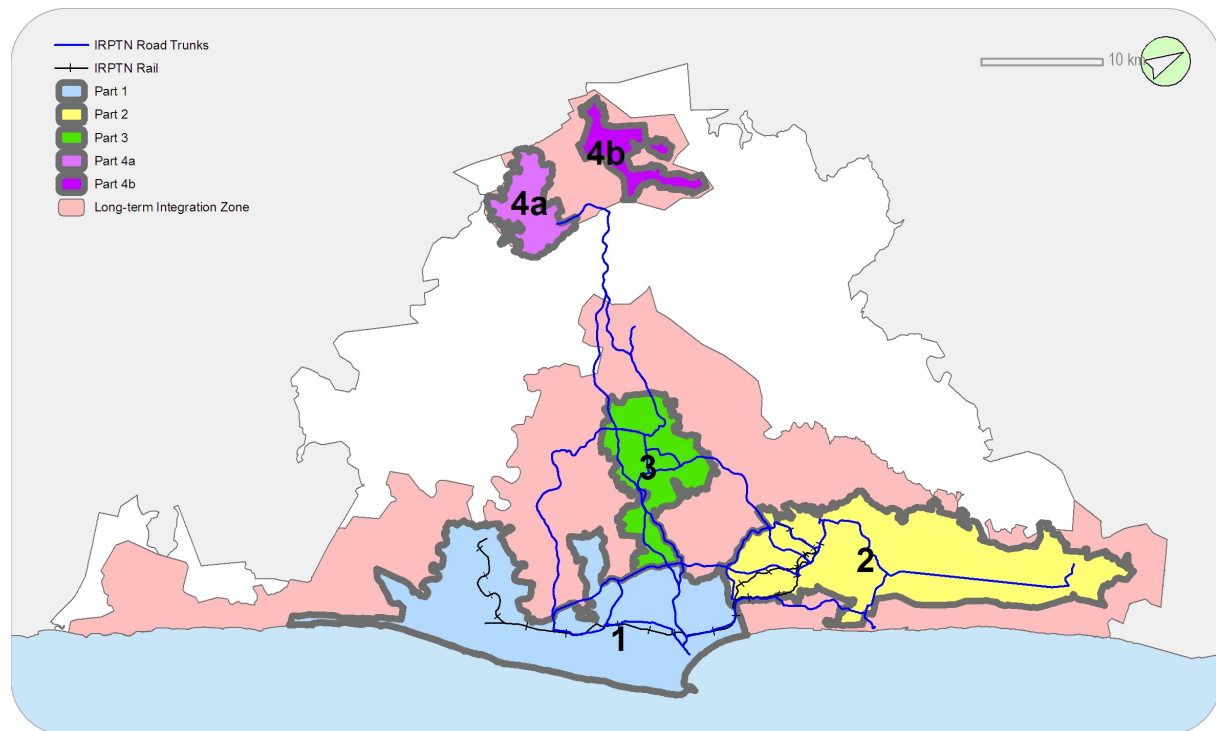
A pending exercise which will inform a future BEPP and high-level planning revisions is the review of the LTDF, SDF and SDPs for internal consistency and for their alignment with the Integration Zone. Another pending exercise to inform a future BEPP is the sideways integration of Sector Plans to each other and the upwards integration of sector Plans into the IDP and the LTDF, SDF and SDPs. A further pending exercise is the review of LUMS to check and correct its alignment with the Integration Zone. The municipality is considering requesting Technical Assistance or other support for these exercises to be undertaken

C4.4 Catalytic Programs and Projects

This topic is covered under the previous “C3 An overview of area-based management initiatives including catalytic projects”.

C4.5 Developmental Strategies for each Integration Zone

Identification of each Part of the Integration Zone



Part 1 is the South Arm up until the Umgeni River, and includes Durban CBD and the Umlazi Primary HUB. Its functions are logistics, industry, port and residential.

Part 2 is the North Arm from the Umgeni River and includes the Bridge City / Kwa Mashu Primary HUB and the Aerotropolis. Its functions are airport and logistics, and residential.

Part 3 is the Pinetown Complex and comprises Pinetown and surrounding suburbs. Its functions are industry and residential.

Part 4 is the Western Complex, and 4a comprises Mpumalanga and Hammsdale, and 4b comprises Cato Ridge and Harrison Flats. Its functions are logistics, agri-business and residential, and it plays a gateway / linkage role relative to the N3.

Parts 1 and 3 are already developed, although not optimally so in every location. The development strategy here is one typical of brownfields strategy, namely identification of inefficiencies and sub-optimal uses, identification of opportunities for infill, densification and intensification, and intervention to redevelop where it will be catalytic to do so. Although these two parts are largely brownfields, there is a significant individual greenfields site - the old airport.

Parts 2 and 4 have brownfields and significant tracts of greenfields. The development strategy would be typical for that of greenfields, namely infrastructure investment, mobilisation of private and public investor interest, accompanied by investment incentives. Part 2, the North Arm, there are greenfields opportunities for economic and residential uses in the greater aerotropolis precinct. Part 4 Western Complex has significant greenfields opportunities for economic development in response to the N3 corridor and the freight route from the Port.

C4.6 Institutional Arrangements

ICDG Forum - Composition and Reporting

The existing institutional arrangements for the Integration Zone and Urban Network is an ICDG Forum co-chaired by two Deputy City Managers (Treasury, and Economic Development & Planning) and attended by senior staff from Planning, Human Settlements, Economic Development, Transport, Water Services, Roads & Stormwater, Treasury, and Corporate Strategy.

The Forum is served by a part-time Secretariat comprising two senior staff, and supported by a resource person availed by National Treasury.

The City Manager is periodically briefed on the progress of the Forum.

Scope

The Forum has so far reviewed the work of the Secretariat on the identification of the Urban Network, the identification of the Integration Zone, the itemising of the IDG budget, and presentations to National Treasury.

In the forthcoming months the Forum will review the municipal MTEF budget and recommend changes to it (particularly for the 2015-16 years and onwards), interact with National Treasury on the content of the Integration Zones and Urban Network, and on the requests for Technical Assistance referred to in "C4.3 Adjustments to Spatial Development Frameworks and Land Use Management System". The Forum will also recommend to Council the adoption of the BEPP.

Resourcing Concern

A concern is that the Secretariat requires additional resources to attend to the Guidance Notes issued by National Treasury on the Urban Networks, BEPP and Performance Indicators. Internal discussion with DCMs and the City Manager have begun on the how to increase the resourcing and improve the positioning of the ICDG Forum and Secretariat. The discussion covers financial resources and human resources (including the possibilities of permanent staff and a panel of resource persons, as well as interim arrangements such as requesting secondment or deployment of resource persons from other spheres of government)

An issue has been identified around how to best drive the development within the Integration Zones, particularly the High-Intensity Zones. There appear to be several options which need to be unpacked and analysed. The management challenge for integrated development in a spatial target is to coordinate and focus programs & projects, human & financial resources, and external partners.

The known precedents are:

- The project matrix model, which features the establishment of a Project Steering Committee of municipal entities.
- The CMDA model, an agency of different spheres of government, to handle capital development from inception to commissioning, handover and close-out
- Subsequent to CMDA, the Area-Based Management model, primarily a planning and referral agency of municipal line departments (and consequently not in control of significant capital budgets)
- Strategic Projects, a municipal entity set up to coordinate 2010 projects
- The International Convention centre, a company wholly-owned by the municipality, for the specific purpose of developing and operating a municipal asset
- The Durban Investment Promotion Agency, a municipal agency for the specific purpose as described by its name.
- The Effingham Development Company, a joint venture of the municipality and private sector, for the purpose of developing Riverhorse Industrial and Bridge City
- An international case study with which the municipality is familiar is the IPOC model from Curitiba.

The municipality is considering requesting Technical Assistance to assess the precedents listed above and others, and to formulate an institutional response for the managing the development of the Integration Zones.

C4.7 Proposed Timeframes for Catalytic Programs and Projects

This topic is covered under the previous "C3 An overview of area-based management initiatives including catalytic projects".

PART D - Outcomes and Outputs

D1 Summary

The municipality is formulating its performance indicators in response to the “Guideline for Framing Performance Indicators for the Metros in South Africa”. It has assigned a coordinator, and there has been interaction with the assigned National Treasury representative to consider the proposed KPIs and to improve them based on the knowledge that practitioners have. A number of rounds of edits and discussion have occurred since then.

The KPIs have been assigned to service unit representatives, for:

- Treasury and Real Estate
- Planning
- Transport
- Housing
- Social
- Economic:
- Water & Sanitation
- Electricity

There are KPIs that are municipal-wide and there are those that apply to the area inside the Integration Zone. A request was issued in the latter half of 2013 to the representatives to populate the baselines and targets for the municipal-wide KPIs first, to be followed by those that apply to the integration zone.

Regarding the municipal-wide KPIs, the populating of Annexure G has been slow since many of the KPIs have never been measured before and therefore new systems need to be put in place in order to measure baselines. Where KPIs are familiar, the service unit representatives have provided baselines and targets. Some follow-up with is required service unit representatives to ensure a better response.

The Integration Zone KPIs depend on the delineation of the Integration Zone. The IZ KPIs have not yet been actioned but are schedule to commence this shortly. It is now possible for the IZ KPIs to start to be considered, because internal consensus on the spatial definition of the IZ (particularly the Phase 1 and the High-Intensity Zones within Phase 1) was recently achieved. The internal discussions will continue in parallel with interaction with National Treasury on their responses to Ethekwini 's IZ proposals.

D2 High Level / City-Wide Development Objectives and Desired Outcomes

This is covered under the earlier “C2.1a Strategic Objectives and Intended Outcomes”.

D3 Sector Development Outcomes and Outputs as per Sector Plans

The narrative for this is covered under the preceding C2.2 to C2.7 in Part C Strategies and Programs.

The municipality has Eight Plans / Thematic Programs, each of which have performance Indicators and budget. The various Sector Plans get unpacked into the eight thematic programs. Plan 3 – Quality Living Environment, receives about 90% of the capital budget, and its indicators and targets for 2013-14 are shown below. The targets for 2014-15 will be set during March.

PLAN 3 - QUALITY LIVING ENVIRONMENT

3.1. Integrated housing & interim services to informal settlements	Measure	Unit
The number of consumer units receiving fully subsidised HOUSING	7,200	No.
3.2. Rental and Gap housing strategy		
New family units in hostels	100	No.
Sale of Council rental stock	600	No.
Upgrade & refurbishment of units in R293, ex-own affairs, & Lamontville	2,900	No.
3.3. Address Infrastructure backlogs		
An updated proxy indigent register	1	%
Built Environment Performance Plan	100	%
Additional consumers with access to a free basic level of potable WATER	1,000	No.
Additional consumers with access to a free basic level of SANITATION	16,200	No.
Additional consumers with new prepaid ELECTRICITY connections	12,000	No.
Additional consumers with new conventional ELECTRICITY connections	1,000	No.
Additional consumers collecting free basic ELECTRICITY (65kWh/month).	85,000	No.
Additional consumers with a once/week, kerb-side REFUSE removal service	170	No.
Municipal LANDFILLS in compliance with the Environmental Conservation Act.	100	%
Properties below the Ethekwini level of service with STORM WATER solutions	440	No.
SIDEWALK constructed.	9	km
Unsurfaced ROAD converted to surfaced	10	km
PUBLIC TRANSPORT RANKS constructed	2	No.
Streams maintained by Zibambele contractors	150	km
Higher order routes covered by an all inclusive, integrated contract	400	km
ROADS maintained by Zibambele contractors	2,400	km
3.4. Infrastructure asset management		
Integrated Asset Management Plan Level 1	100	%
Integrated Infrastructure Asset Management Plan Level 2 - All Sectors	50	%
Demand management -The % of non-revenue water loss.	35	%
3.5. Integrated Human Settlement Plan (Sustainable Community Facilities)		
Implement Access Modelling - Social facility pre-implementation plan Phase 3	100	%
3.6. Implement an effective public transport plan for the Municipality		
Detailed Design of Phase of the (IRPTN) Project.	100	%
Passengers using accessible scheduled public transport services	80,000	No.
Passengers using scheduled public transport services	26,000,000	No.
Develop an Integrated Freight and Logistics Strategic Framework and Plan	50	%

D4 Outcomes and Impact for Each integration Zone

The Performance Indicators and the system by which to measure and report on them are being developed. Material on this point will consequently be included in a forthcoming draft .

PART E - Institutional and Financial Arrangements

E1 Institutional Arrangements for Integrated Planning

See C4.6 Institutional Arrangements.

E2 Institutional Arrangements for Capital Program Management

The internal institutional arrangements for capital program management are busy evolving.

There is a capital monitoring entity (Capmon) in the office of the City Manager which monitors the capital spend of the municipality, and which also monitors a key precursor to spend, namely the procurement process. Capmon holds weekly budget meetings with multiple service units, to coordinate spend, procurement, and related processes.

The City Manager's office is also monitoring the "Top 150" capital projects. These projects have been selected because of their budget quantum and-or because of their urgency. The Top 150 follows a similar process as Capmon.

In parallel to Capmon and Top 150, the municipality is preparing itself to implement IDMS, which is concerned not only with spend and procurement, but also with the remainder of the project cycle and with comprehensive program management.

The municipality also very recently made a procurement to spatially represent the capital budget, and this will assist both with the SDF review (mentioned elsewhere) as well as with the municipality's growing effort and interest to spatially coordinate its Own investment and those of others.

Intended for the forthcoming twelvemonth is the formulation of a single corporate spatial plan linked to the budget. The ICDG process is the fulcrum for this. The single corporate spatial plan will demand a synthesis of and a spatialisation of sector plans, and refinement and simplification of the SDF and SDPs. At present, service units determine their own budgets with loose reference to the IDP and other corporate strategy instruments. An intention of the single spatial plan is to ensure the conscious and corporate selection and prioritisation of programs.

E3 Supply Chain Management and Procurement Plan

Like many other municipalities, Ethekwini uses a three-committee system for making decisions on the award of expenditure over R200,000 :

- Bid Specification
- Bid Evaluation
- Bid Adjudication

Each committee is independent of the other.

The SCM process shifted over to Treasury during the course of 2012. One of the first actions after the shift was the process to compile a single procurement schedule. Service units were requested to submit procurement planning information for the remainder of the 2012-13 financial year as well as the procurement plans for the 2013-14 financial year . This information was consolidated into a single plan.

In February 2013 the request for procurement plan information was repeated. A circular and template were issued for completion by service units. Once again this information was consolidated into a single set of procurement planning information.

In order to assist with the process of recording procurement plan information, as well as tracking the procurement through the bid committee process, an IT system was configured using the JD Edwards software. The system is ready for use and can be used to assist with the continuing procurement scheduling and tracking of procurement status.

In the interim (prior to system readiness), in order to monitor the procurement for the top 150 capital budget line items, a spreadsheet system was used in order to record and monitor procurement information. This information was reviewed at frequent top 150 Capital project meetings chaired by the City Manager.

E4 Partnerships

Community Services

Because the function for community services falls across several government units, there is an opportunity for partnership between the municipality and provincial departments in Health, Education, Emergency Services, and Social Grants.

EDUCATION

There is an existing Memorandum of Agreement with the Department of Education whereby the municipality acts as Implementing Agent on infrastructure at schools, and on the management of schools sportsfields as community facilities. The implementation agency and the management arrangement on fields are not general throughout the city, but rather on a case by case. The MOA's ad hoc secretariat is not currently functioning due to no resources being available, and this needs to be corrected if the content of the MOA is to be acted upon, and if it is to be upscaled spatially and extended functionally into school upgrades through fund-raising from private sector, and to examine the possibility for utilising USDG funding to improve schools. In addition, the MOA's ad hoc secretariat should also be exploring the potentials for utilising halls, parking, and classrooms as community facilities, and the secretariat should also examine how new community facilities, particularly libraries, parks, clinics, and supportive facilities such as crèches and public transport stops could be located on (preferably) or adjacent to school grounds. The secretariat should also be examining how schools could benefit from existing community halls and libraries run by the municipality.

HEALTH

There is also an agency arrangement between the municipality and Health around primary health care for the construction and operation of clinics. This arrangement seems to be functional when it comes to construction, but there appear to be areas of duplication on the operations side, arising primarily from pre-democracy when the former City of Durban ran its own clinics. A stronger partnership seems to be needed to clarify and coordinate roles, and as with education, to explore and arrange how best to cluster clinics with other uses.

There appears to be functional partnership with Home Affairs on the sharing of office space with the municipality to offer a wider range of public services at one place, via the Thusong Centres.

The DPSA's "Geographic Accessibility Study of Social Facility and Government Service Points for the Metropolitan Cities of Johannesburg and Ethekwini " points to the need for greater partnerships and coordination between other government departments (e.g. Labour, Social Development) to establish and maintain a presence at Thusong Centres.

HUMAN SETTLEMENT

For the development of Cornubia South (underway) and Cornubia North (proposed), a functional partnership has been established between municipality, landowner, Housing Development Agency, and DHS. The partnership is served by a full-time secretariat comprising municipal officials.

See also "C3 An Overview of Area-Based Management initiatives including Catalytic Projects"

MULTI-USE AND ECONOMIC

Mention is made elsewhere in this document about the joint venture with private sector around Bridge City and Riverhorse Industrial. Riverhorse Industrial is complete, and at Bridge City the JV succeeded to attract significant private and state investment, and aims to continue to do so until the project is complete.

See also "C3 An Overview of Area-Based Management initiatives including Catalytic Projects".

E5 The Value of Program and Projects By Sector

The table below analyses the Ethekwini MTEF according to Thematic Program.

The main Thematic Program “Plan 3 : Quality Living Environment” makes up 90% of the total budget, and is broken down to allow interpretation of its emphasis. The Thematic Program “Plan 2: Prosperous, Diverse Economy & Job Creation” is broken down here because of its likely interest to National Treasury in its capacity as one of the main funding sources of the Program.

	2014-15	2015-16	2016-17
Plan 1 : Spatial, Natural & Built Environment	24.200	20.600	4.000
Integrated spatial planning system	21.050	17.000	
Long term sustainability of the natural resource base	3.150	3.600	4.000
Plan 2 : Prosperous, Diverse Economy & Job Creation	202.155	240.131	384.505
Stimulate Key Sectors	22.000	2.000	30.000
Neighbourhood Development	70.000	75.00	100.000
Town Centre Renewal	55.800	84.000	92.000
Strategic Projects for 2013 and Beyond	42.700	38.500	53.000
Managing the Informal Economy	1.170	4.200	79.000
Support & Grow the Tourism Sector	6.500	16.000	8.000
Support and Grow the Fresh Produce Industry	3.985	20.431	22.505
Plan 3 : Quality Living Environment	6,804.149	7,281.861	8,286.657
Housing and Interim Services	1,615.150	1,745.650	1,856.200
Rental and Gap Housing	269.625	258.178	700.398
Infrastructure Backlogs	83.701	131.958	138.650
Public Transport & Freight	1,177.618	1,223.000	1,289.819
Water	1,094.530	1,168.800	1,168.900
Sanitation	827.750	861.050	1,060.100
Solid Waste	101.935	95.963	140.380
Stormwater	38.314	40.302	111.142
Roads	551.142	512.481	540.000
Electricity	715.519	787.747	846.069
Community Services Backlogs	291.787	315.782	392.999
Public Spaces	37.078	40.950	42.000
Plan 4 : Socially Equitable Environment	93.581	104.687	97.800
Plan 5: Empowerment of Citizens	12.000	14.650	0.859
Plan 6 : Cultural Diversity, Arts and Heritage	66.243	6.818	112.100
Plan 7 : Good Governance & Responsive Government	227.140	254.455	230.303
Plan 8 : Financially Accountable & Sustainable City	182.750	136.131	332.949
TOTAL	7,611.917	8,059.003	9,449.209

E6 The Value of Programs and Projects per Integration Zone

MTEF Summary

	High-Intensity Zone	High-Density Suburbs	Medium- & Low-Density Suburbs	Non-Urban Area
2014-15	1,661.61	2,307.39	2,776.38	866.547
2015-16	1875.043	2321.691	2910.471	951.798
2016-17	2,477.72	2,660.36	3,288.03	1,023.09
SUBTOTAL	6,014.37	7,289.44	8,974.89	2841.435
% OF TOTAL	24%	29%	36%	11%

2014-15

	High-Intensity Zone	High-Density Suburbs	Medium- & Low-Density Suburbs	Non-Urban Area
Plan 1 : Spatial, Natural & Built Environment	8.494	6.622	6.769	2.314
Plan 2 : Prosperous Economy & Job Creation	82.102	54.625	54.579	10.848
Plan 3 : Quality Living Environment	1,471.433	2,051.197	2,496.581	784.937
Plan 4 : Socially Equitable Environment	21.333	20.945	33.214	18.088
Plan 5: Empowerment of Citizens	2.218	3.735	4.617	1.430
Plan 6 : Cultural Diversity, Arts and Heritage	0.324	42.767	23.044	0.107
Plan 7 : Governance & Responsive Government	41.980	70.701	87.384	27.075
Plan 8 : Financially Accountable & Sustainable City	33.721	56.791	70.191	21.748
SUBTOTAL	1,661.606	2,307.385	2,776.380	866.547
% OF TOTAL	22%	30%	36%	11%

2015-16

	High-Intensity Zone	High-Density Suburbs	Medium- & Low-Density Suburbs	Non-Urban Area
Plan 1 : Spatial, Natural & Built Environment	14.6	2.0	2.6	1.4
Plan 2 : Prosperous Economy & Job Creation	86.2	69.6	71.3	13.0
Plan 3 : Quality Living Environment	1,677.5	2,096.7	2,636.5	871.2
Plan 4 : Socially Equitable Environment	21.1	24.5	41.5	17.6
Plan 5: Empowerment of Citizens	2.7	4.6	5.6	1.7
Plan 6 : Cultural Diversity, Arts and Heritage	0.8	2.8	2.9	0.4
Plan 7 : Governance & Responsive Government	47.0	79.2	97.9	30.3
Plan 8 : Financially Accountable & Sustainable City	25.1	42.3	52.2	16.2
SUBTOTAL	1,875.043	2,321.691	2,910.471	951.798
% OF TOTAL	23%	29%	36%	12%

2016-17

	High-Intensity Zone	High-Density Suburbs	Medium- & Low-Density Suburbs	Non-Urban Area
Plan 1 : Spatial, Natural & Built Environment	0.739	1.245	1.539	0.477
Plan 2 : Prosperous Economy & Job Creation	172.003	109.251	87.196	16.054
Plan 3 : Quality Living Environment	2,112.051	2,315.298	2,930.639	928.668
Plan 4 : Socially Equitable Environment	23.416	27.961	38.039	8.384
Plan 5: Empowerment of Citizens	0.159	0.267	0.330	0.102
Plan 6 : Cultural Diversity, Arts and Heritage	65.162	32.125	13.049	1.764
Plan 7 : Governance & Responsive Government	42.723	70.693	89.290	27.997
Plan 8 : Financially Accountable & Sustainable City	61.469	103.523	127.951	39.643
SUBTOTAL	2,477.722	2,660.364	3,288.034	1,023.090
% OF TOTAL	26%	28%	35%	11%

E7 The Value of Each Catalytic Project or Program per Network Element

This will be included in a forthcoming draft of this document.

E8 Non-infrastructure Related interventions in integration Zones

This will be included in a forthcoming draft of this document.

E9 Application of Grant Allocations

	ICDG	USDG	HSDG	PTIG	NDPG	INEP
Plan 1 : Spatial, Natural & Built Environment						
Integrated spatial planning system						
Long term sustainability of the natural resource base						
Plan 2 : Prosperous, Diverse Economy & Job Creation						
Stimulate Key Sectors						
Town Centre Renewal & Neighbourhood Development						
Strategic Projects for 2013 and Beyond						
Managing the Informal Economy						
Support & Grow the Tourism Sector						
Support and Grow the Fresh Produce Industry						
Plan 3 : Quality Living Environment						
Housing and Interim Services						
Rental and Gap Housing						
Infrastructure Backlogs						
Public Transport & Freight						
Water						
Sanitation						
Solid Waste						
Stormwater						
Roads						
Electricity						
Community Services Backlogs						
Public Spaces						
Plan 4 : Socially Equitable Environment						
Plan 5: Empowerment of Citizens						
Plan 6 : Cultural Diversity, Arts and Heritage						
Plan 7 : Good Governance & Responsive Government						
Plan 8 : Financially Accountable & Sustainable City						